

The University of Chicago

EFFECT OF ATTITUDES OF THE
READER UPON CRITICAL
READING ABILITY

A DISSERTATION SUBMITTED TO THE FACULTY
OF THE DIVISION OF THE SOCIAL SCIENCES
IN CANDIDACY FOR THE DEGREE OF DOCTOR
OF PHILOSOPHY

DEPARTMENT OF EDUCATION
AUGUST, 1946

By
HELEN JAMESON CROSSEN

CHICAGO, ILLINOIS

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CHAPTER I

THE PURPOSE OF THIS STUDY

This study attempts to discover the relationship that exists, if any, between ability of pupils to read critically about a given topic and their attitude toward that topic.

Definition of Terms

Critical Reading

The act of reading, as conceived here, is a complex process in which the comprehension of written materials involves intellectual effort of a high order. A statement by Thorndike¹ supports the point of view that even at fairly simple levels of difficulty, accurate comprehension involves complex mental processes. "It thus appears that reading an explanatory or argumentative paragraph in his text-books on geography or history or civics, and (though to a less degree) reading a narrative or description, involves the same sort of organization and analytic action of ideas as occur in thinking of supposedly higher sorts."

The term "critical reading" is here used to denote reading in which the mental resources of the reader are drawn upon most heavily. Kottmeyer has defined critical reading as being "essentially the highest and most complex form of reading."² For the purpose of this investigation critical reading is further defined as involving the following aspects of the reading process:

1. Gaining a clear and correct grasp of the basic ideas presented in the selection read.
2. Gaining an accurate perception of relationships, both expressed and implied, in the selection read.

¹Edward L. Thorndike, "Reading as Reasoning; A Study of Mistakes in Paragraph Reading," Journal of Educational Psychology, VIII (June, 1917), 331.

²William Kottmeyer, "Classroom Activities in Critical Reading," School Review, LII (November, 1944), 557.

3. Evaluating precisely the content as to its validity, comprehensiveness, accuracy, and usefulness to the reader's purpose.
4. Drawing correct conclusions, and making valid inferences about what is read.

Attitude

The term attitude has been variously defined by investigators. Generally acceptable definitions agree in stating that an attitude involves a tendency to accept or reject some situation, and frequently the presence of an emotionalized tendency is indicated. For example, Boyd states: "Attitude is the emotional acceptance (or rejection) of a situation."¹ The emotional aspect of attitude is emphasized by Sherman as follows:

Attitudes reflect the way in which a person responds to a given situation. Although intellectual processes influence the formation of attitudes, they are essentially emotionally determined and emotionally toned.²

The tendency to accept or reject implies that attitudes precede behavior of some sort, and that they function as determinants of such behavior. Thus, Grim states that "according to the definition which we accept, an attitude is a belief or feeling which reveals a behavior tendency."³ Murphy, Murphy, and Newcomb comment upon the nature of the reaction or response to an attitude with respect to measurement:

The attitude is primarily a way of being "set" toward or against certain things. Both the response and the situation are in most cases of verbal nature - almost exclusively so in so far as attitudes lend themselves to measurement. Hence we shall regard attitudes, in conformity with general usage in their experimental literature, as verbalized or verbalizable tendencies, dispositions, or adjustments toward certain acts.⁴

¹George Robert Boyd, The Construction of an Instrument for Measuring Attitudes toward Desirable Food Practices, p. 10. Bulletin of the Bureau of School Services, College of Education, University of Kentucky, XVI (September, 1943). Lexington, Kentucky: The University of Kentucky.

²Mandel Sherman, Basic Problems of Behavior, p. 238. New York: Longmans, Green and Co., 1941.

³Paul R. Grim, "A Technique for the Measurement of Attitudes in the Social Studies," Educational Research Bulletin, XV (April 15, 1936), 95.

⁴Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, Experimental Social Psychology, p. 889. New York: Harper and Brothers, 1937. (Revised.)

For the purpose of the proposed study verbal responses only will be used in the measurement of attitudes, and the following definition of the term attitude is accepted as the basis of the investigation: An attitude is a disposition to react in a favorable or unfavorable way toward any topic, group, institution, practice, person, object or idea. The reaction may take the form of verbalized response or overt behavior.

Evidence of Interest in the Relationship of Attitudes and Reading Abilities

The effect of attitudes upon reading is a subject which has been viewed with increasing interest during the past few years. A statement by Wrightstone reflects that interest:

Research is needed in this field [measuring attitudes in reading] to discover (a) the direction and the intensity of the student's desire to learn about social, scientific and aesthetic phenomena through reading, and (b) an indication of his emotional attachment to certain basic concepts. Evaluation techniques are needed to give a picture of his predispositions regarding issues implicit or expressed in reading materials and an analysis of the consistency and conflicts in his attitudes.¹

Conant in suggesting further research relating to the construction of a diagnostic reading test wished to include questions "calling for more critical reading on the part of the student." The types of questions suggested follow:

. . . the student may be asked to read two passages representing opposite points of view. Questions on these may test the student's comprehension of the meaning of each passage, the ability to see whether the conclusions follow from the facts presented, whether the differences between the conclusions of the two passages are based on the differences in the evidence presented or in the way in which the evidence is interpreted in each passage.²

Summary of Evidence Available as to the Relationship of Attitudes and Reading Ability

The foregoing comments are indicative of current interest

¹J. Wayne Wrightstone, "Techniques of Appraisal," Reading in General Education, pp. 394-95. A Report of the Committee on Reading in General Education. Edited by William S. Gray, Chairman. Washington: American Council on Education, 1940.

²Margaret M. Conant, The Construction of a Diagnostic Reading Test, pp. 122-23. Teachers College Contributions to Education No. 861. New York: Teachers College, Columbia University, 1942.

in gaining a more penetrating insight into the nature of the pupils' reactions to printed materials, particularly in the light of their "emotional attachment" to various ideas. The question may next be raised as to whether some information on these points may not already be available. A careful survey of studies in reading and in attitudes has led to the conclusion that the evidence is somewhat limited. Prior to 1944 no studies had been undertaken, for example, for the specific purpose of studying the effect of the reader's attitudes upon his reading. Investigations having other related aims, however, have from time to time, supplied pertinent information.

Kinds of Evidence in Related Studies

Accounts of pupil difficulties.--Reports of individual pupil difficulties in reading have been useful in judging the effect of the pupil's emotional involvement upon his interpretation of what is read. Rosenblatt has described the effects of emotional problems upon pupils' interpretation of a novel of family life, and observed that the pupil's preoccupation with problems of family relationships blocked correct interpretation.¹ Hayakawa has noted that the student's "fixed notions" act like "a kind of heavy static, interfering with the reception of the message given on the printed page."²

Freely-written test responses.--The unprompted responses to written test questions were analyzed by Strang in a study of the reading patterns of a number of individuals. A "partially supported" hypothesis emerged from the study which was stated as follows:

The fifth hypothesis is that people read with their experience and their emotions. In the majority of cases the freely written responses were colored by the reader's prejudices and personal experiences. What a reader gets out of a passage depends, in large measure, on what he brings to the passage.³

¹Louise Rosenblatt, Literature as Exploration, pp. 93-94. New York: D. Appleton-Century Co., 1938.

²S. I. Hayakawa, "Ways in Which Passages Are Misinterpreted and Possible Explanations," Reading in Relation to Experience and Language, p. 88. Compiled and Edited by William S. Gray. Supplementary Educational Monographs No. 58. Chicago: The University of Chicago, 1944.

³Ruth Strang, Explorations in Reading Patterns, p. 2. Chicago: The University of Chicago Press, 1942.

The evidence here presented suggests that attitudes and prejudices held by the reader may affect the interpretation of reading materials, particularly when unprompted responses are made to questions about these materials.

Studies of the effect of factors involving emotionalized states.—Information useful in understanding the relationship of attitudes and reading may also be gained from studies of the effect of various emotionalized states. Waples¹ and his associates have noted the effect of the reader's "predispositions" upon the selection of materials and the interpretations made of them. The term "predisposition" was defined by the authors as "all the personal conditions involved in the reading experience."² These conditions include "broad traits like age and sex, through the reader's habitual attitudes as shaped by his primary group associations, to the most intimate feelings he has about himself at the moment."

Such predispositions, according to the authors, influence the reader in two ways, conditioning both his selection of publications to read, and the interpretation made of them. The example is given of the readers of two magazines, the New Masses, and Fortune. The statement is made that communists read the former and capitalists the latter, reacting to their reading "as communists and capitalists."³

While there is little doubt that books, newspapers, and magazines have a particular appeal to a public previously oriented toward a sympathetic consideration of their content, more penetrating insight may be gained as to the nature of the reaction to content on the part of particular groups through experimental studies involving smaller groups of people. An interesting study of the effect of fear of high places upon reading was made by Warren and Jones.⁴ For the experiment a "control" group of per-

¹Douglas Waples, Bernard Berelson, Franklyn R. Bradshaw, What Reading Does to People. Chicago: The University of Chicago Press, 1940.

²Ibid., p. 82.

³Ibid., p. 91.

⁴Arthur B. Warren and Vernon Jones, "Effect of Acrophobia upon Reading Ability as Measured by Reading Comprehension and Eye-Movements in Reading," Journal of Genetic Psychology, LXIII (September, 1943), 3-14.

sons normal with respect to fear of high places, and an experimental group of persons known to have intense fear of high places (acrophobia) were used. The authors found that the reading done under conditions which approximated those of real danger of falling was significantly different for the two groups. When materials dealing with high places, narrow escapes from falling from high places, etc. were read in the laboratory, the "total number of significant memories" about the material read was not greatly different for the two groups. However, eye-movement records indicated a considerable amount of disturbance and irregularity common among the individuals known to have the phobia which was not observed in the records of the control, or normal, group.

A study of belief in news reports in newspapers was made by Seward and Silvers.¹ The authors presented materials which were thought by the subjects to be newspaper reports of war news as issued from Washington and from Tokyo. Indications of the degree of belief in these reports by approximately two hundred students were tabulated. Results indicated a tendency to believe one's own government rather than a hostile one, to believe good news rather than bad, and to believe news adverse to its source rather than favorable to its source.

The effect of stereotyped words has been studied by Sargent,² who selected forty terms from the Chicago Tribune, twenty referring to policies it does not support, and twenty referring to approved policies. "Immediate emotional reactions" were recorded by 231 adult subjects by writing L(like), D (dislike), or ? (no feeling) as the investigator read the words aloud. A stereotype score was computed for each word according to the formula $\frac{NL - ND}{N}$. For those words greatly disliked a minus score was obtained. Ten words were found to have a score of minus 50 or more; fourteen words plus 50 or more.

Menefee³ presented sixteen statements to 742 subjects who

¹John P. Seward and Evelyn E. Silvers, "A Study of Belief in the Accuracy of Newspaper Reports," Journal of Psychology, XVI (October, 1943), 209-18.

²S. S. Sargent, "Emotional Stereotypes in the Chicago Tribune," Sociometry, II (April, 1939), 69-75.

³Seldon C. Menefee, "The Effect of Stereotyped Words on Political Judgments," American Sociological Review, I (August, 1936), 614-21.

marked them "yes" or "no" according to their approval or disapproval. The same statements were then presented to the experimental group under appropriate stereotype headings. For example: "Following are some opinions typical of Conservatism. Do you agree with them?" A control group reacted to the same list of statements without the addition of the stereotypes. The responses of subjects to each statement were then compared in terms of per cent of responses possible to change. That is, if thirty subjects answered "yes" to the first presentation, but only fifteen so responded when the stereotype was placed above it, a change of fifty per cent was indicated. Greater change, measured in this manner, was evidenced by the experimental group, particularly to the terms "Fascism," "Radicalism," and "Communism."

Sherif¹ presented a list of names of sixteen authors to subjects who were asked to rate by (1), (2), etc. those best liked. One month later the same subjects were presented sixteen short passages, each ascribed to a different author. In reality all were taken from the work of a single writer. The subjects then rated these passages (1), (2), etc. according to their liking for the passage, and recorded whether or not they intentionally disregarded the author's names in making their judgments.

Correlations between order of preference for authors and order of judgments of literary merit were next computed. For twenty-five subjects who made no effort to disregard author's names the correlation was .45; for eight subjects who made particular effort to ignore author's names the correlation was -.03. Later experiments carried out in a similar manner produced similar results. The author concluded that "prestige-suggestion or stereotype plays a considerable part in people's judgments."

In a study of the effect of propaganda by Collier² the subjects of an experimental group made a careful analysis of four varieties of very skillful and subtle German propaganda. The control subjects were not made aware of the tricks and devices used by the Germans. A test of the attitudes of both groups be-

¹M. Sherif, "An Experimental Study of Stereotypes," Journal of Abnormal and Social Psychology, XXIX (January-March, 1935), 371-75.

²Rex Madison Collier, "The Effect of Propaganda upon Attitude Following a Critical Examination of the Propaganda Itself," Journal of Social Psychology, XX First Half (August, 1944), 3-17.

fore and after exposure to German propaganda materials indicated the control subjects were markedly less in agreement with the Nazi point of view, while the experimental subjects were slightly more favorable. The conclusion was made that "the inhibiting quality of the kind of insight with which these subjects approached the propaganda has apparently been over rated in the past."

Although the investigations just reported do not bear directly upon the problem of the effect of attitudes upon critical reading, the evidence presented does indicate that the reader's emotions tend frequently to act as a barrier to his correct interpretation and adequate comprehension of the material read. A study which was undertaken for the specific purpose of investigating the relationship of attitudes and reading performance will be considered next.

Evidence Available in a Study Particularly to Determine the Effects of Attitude upon Reading

The effect of the predispositions of 241 pupils in Grades VII to X upon the interpretation of reading material was investigated by McCaul,¹ using quantitative and statistical methods.

A story about an unknown character named "Tom" was presented to the pupils, followed by five multiple-choice questions. One response ascribed a favorable motive, and one an unfavorable motive to the person about whom the pupils had read. Another response was "neutral" and correct; the other two were "decoy" questions. Two other sets of stories were identical with the first, except that in one the name "Franklin Roosevelt" was substituted for "Tom," and in the other was substituted the name, "Adolf Hitler."

These stories were then read by a "Roosevelt group" who had indicated they would vote for Roosevelt (in the 1940 election), a "Willkie group" who had indicated that they would vote for Willkie, and a "Hitler group" who had indicated that they opposed Nazi attack upon France. It was expected that the groups favorable to Roosevelt would tend to choose the favorable response more often than the unfavorable. It was also expected

¹Robert L. McCaul, "The Effect of Attitude upon Reading Interpretation," Journal of Educational Research, XXXVII (February, 1944), 451-57.

that the Willkie group would respond more often to the unfavorable choices. The "Hitler group" were expected to choose unfavorable responses more frequently than the "Tom" group.

While critical ratios of the differences in the responses of the groups were not always high, trends were found to be consistent enough to justify conclusions regarding the effect of the pupils' attitudes upon their reading. The first conclusion made was that attitudes affect interpretation, at least as far as the motives ascribed to the persons about whom the pupil is reading are concerned. A second conclusion was that boys seemed to be more influenced than were the girls by their attitudes, and that pupils in the higher grades made more responses showing attitude effect than did those in the lower grades. A third conclusion was that the stronger the attitude, the greater the tendency for attitude to affect interpretation. The "Hitler" group, which might be expected to possess stronger feelings of aversion, tended to respond more unfavorably than did the "Roosevelt" group.

The Particular Province of This Investigation

At the time the present investigation was planned, evidence concerning the relationship of attitudes to reading ability was available only through investigations bearing indirectly upon the problem. In the light of the evidence presented in these studies, which were reviewed in a previous section, two specific questions were proposed for this investigation:

1. Will pupils who have the most favorable attitudes toward a topic read materials about that topic with more accuracy and discrimination than do other pupils in their group? In other words, will a favorable attitude enhance skill in critical reading?

2. Will the pupils who have the least favorable attitudes toward a topic read with less accuracy and discrimination materials about that topic than do the other pupils in their group? Or stating the question in another way, will an unfavorable attitude tend to inhibit critical reading? Later sections of this report contain detailed discussions of the topics toward which pupils' attitudes are measured, and the nature of the reading skills involved in reading about those topics.

Since the organization of this study the publication of McCaul's findings has given a definite indication of the rela-

tionship between attitudes and reading, in so far as attributing motives to the persons read about is concerned. This evidence does not invalidate the purpose of the present study; certain modifications, however, were made necessary by these findings. First, this study seeks to extend understanding of the relationship of attitudes and reading ability. Second, the extension will be in the nature of contributing to a more exact knowledge of the relationship of attitudes to reading performance. Specifically, does the attitude of the reader bear a significant relationship to his ability to apprehend, interpret and evaluate the materials read? Will any such relationship appear in the reading of other than narrative materials? If these questions can be answered in the affirmative, a more definite conclusion than heretofore has been stated regarding the effect of attitudes upon reading would appear to be justified.

Assumptions Underlying the Study

Three basic assumptions have been made in carrying on a study for the purpose of answering the proposed questions. It is assumed first that abilities in critical reading may be measured, both in areas in which the reader may have some feeling tendencies of opposition or of approval, and in areas in which the reader is as yet untouched by any tendency to approve or disapprove.

It is assumed also, that the attitudes of a group of pupils can be measured, at least to the extent of discovering which members of any group are relatively most favorably inclined toward a topic. And, finally, it is assumed that a relatively indifferent attitude toward a topic will not significantly affect ability to read critically material about the topic.

The first and second of these assumptions have been made the basis of considerable investigation in the past, and the making of the necessary measurements has been demonstrated to be feasible. The third assumption is in no apparent conflict with what is generally known about either the act of reading, or the effect of attitude upon behavior.

The Value of the Study

A more exact knowledge of the relation of attitudes to critical reading ability should have considerable practical value.

Such knowledge should be useful in these ways: (a) in gaining insight into the reading process, (b) in aiding analysis of the reader's reaction to the printed page, (c) in aiding the interpretation of pupils' difficulties in reading, and (d) in estimating the influence of reading upon value patterns already held by the reader.

The study should also provide some information which will assist in the promotion of socially desirable attitudes. Since the first step in promoting such attitudes is to ascertain the status of present attitudes, the data secured in this study and the instruments devised for it should serve to enlarge understanding of the attitudes possessed by high school pupils. As the nature and effect of attitudes are better understood, advantage may be taken of all possible means for strengthening those which are most desirable for the welfare of the individual and of society.

And, finally, the investigation should make some contribution to the promotion of critical reading. It is apparent that information about the possible obstacles to critical reading is necessary if a desire to read critically is to be stimulated, and facility in this aspect of reading developed. This study seeks to reveal such obstacles as may be found in the operation of the attitudinal biases of the reader. If, for example, incorrect and inappropriate pupil responses to questions relating to material read are associated with attitudes, such a fact has an important bearing upon the guidance of reading activities and the selection of materials to be used in promoting critical reading.

A test of critical reading ability to be provided for this study, and a preliminary analysis of abilities involved in critical reading may also be useful in suggesting types of teaching and testing devices which will make pupils more sensitive to the need for a thorough analysis of the various types of reading materials which they encounter.

Organization of the Remainder of the Thesis

The plan followed in this investigation will be described in Chapter II. It includes a discussion of the steps essential to an objective study of the relationship of attitudes and reading ability, and the description of two data-gathering instruments available for use in carrying out the study. Chapter III describes the test of critical reading constructed for this in-

vestigation. Chapter IV deals with the construction and use of a Survey of Opinions, an instrument developed for the purpose of discovering pupil attitudes. Chapter V contains an account of the pupil groups involved, and an analysis of the data secured in the administration of the Survey of Opinions and the Critical Reading Test. A summary of the conclusions to be drawn, and the implications of the findings of the investigation appear in Chapter VI.

CHAPTER II

THE PLAN OF THE INVESTIGATION

The procedure to be followed in seeking answers to the questions proposed in the previous chapter will be outlined in this chapter. The steps essential to the study will first be discussed, followed by a statement of the requirements to be met in the selection of data-gathering instruments and statistical procedures. The chapter will conclude with a description of existing instruments to be used in the study and the technique by which comparisons of pupil groups will be made.

Steps Essential to An Objective Study of the Relationships of the Attitudes of the Reader and Critical Reading Ability

The Selection of Topics

The first step essential to carrying out this investigation was the selection of topics for the testing of critical reading ability. It was apparent that such topics should be ones about which some attitude was likely to be held by the pupils. For this reason, therefore, two requirements for topics were adopted. It was essential first that the topic chosen be familiar to the pupil, if any existing attitude relating to it were to be measured. It should, therefore, be a topic of current interest to the general population, and one with which the pupils were likely to have had some contact, through previous reading, listening, or participation. It was assumed that a topic which bore some relationship to school experience might have provided such contact. Therefore a topic was sought which was likely to be related to the high school curriculum.

If useful conclusions regarding the relationship of pupil attitude and reading ability were to be drawn, the materials used should be of a kind readily accessible to the pupils. No particular significance could be attached to pupil reactions to a kind of reading material encountered only in a test situation. A sec-

ond requirement, therefore, of the materials selected was that they be fairly accessible to the pupil groups.

The Selection of Pupil Groups

The second essential step was the selection of pupils to be used in seeking answers to the questions proposed for this study. A fairly representative group was sought. Such a group was important for two reasons. First, a distribution of attitudes approaching a normal distribution was desired, so that some pupils favorable to the topic and some unfavorable to it might be represented. Therefore pupils drawn largely from any one social, economic, national, or vocational level were not suited to the purpose of this study. Second, if generalizations valid for more than one particular group were to be drawn, such conclusions should be based upon data obtained through the use of a representative sample of the population tested.

Other Factors to Be Considered

In order to insure sound conclusions, factors other than attitude which might condition the nature of the reading performance had to be taken into consideration. Three factors, chronological age, mental age, and general reading achievement, appeared to be of sufficient importance to merit further study. Evidence pertaining to their significance will be summarized briefly.

Chronological age.---Monroe¹ computed correlation coefficients between reading scores and chronological ages, and found them to be $0.09 \pm .066$ for a "control" or normal group and $0.42 \pm .041$ for clinic reading cases, and $0.45 \pm .058$ for special reading cases. These correlations do not indicate that a significant relationship exists between reading scores and chronological ages for normal readers.

For the purpose of this study, however, it was thought advisable to take into consideration the chronological ages of the pupils in making comparisons. It may be assumed that the oldest pupils in a group, all things considered, will be those who have had more experiences on which to base attitudinal reac-

¹Marian Monroe, Children Who Cannot Read, p. 8. Chicago: The University of Chicago Press, 1932.

tions. The hypothesis that the older pupils are most likely to have the more firmly fixed attitudes is one to which consideration should be given. It was thought desirable, therefore, to seek information about the chronological ages of the pupils.

Mental age.—Most apparent of factors conditioning the reading performance of the reader is his mental age. The relationship of the mental ages of readers in normal and retarded groups has also been investigated by Monroe¹ with the following results: "The Pearson r 's which we obtained between reading and mental age were: controls $0.60 \pm .042$; clinic reading cases $0.56 \pm .038$; special reading cases $0.65 \pm .034$."

A correlation of .60 between mental age and reading denotes a relationship which must be accounted for in making comparisons of the critical reading ability of groups of pupils selected on the basis of attitude. The higher scores of one group, for example, might more correctly be attributed to the effect of a higher mental age, rather than to the operation of a favorable attitude toward the topic about which the reading was done. Therefore, the mental ages of the pupils tested in the course of this study were taken into consideration.

General reading achievement.—It was also apparent that comparisons of the critical reading ability of pupils favorable or unfavorable to a topic should take into account their general reading ability in areas which did not involve particular attitudinal biases. Otherwise the superiority of a group favorable to a topic, for example, might be more correctly attributed to their superior reading achievement than to the attitude held.

The Collection of Necessary Data

The third step in carrying out the plan of the study was the collection of essential data. As indicated earlier, information about the attitudes of the pupils toward the topic, or topics, chosen, and information concerning the chronological ages, mental ages, and general reading achievement of the pupils was essential.

It was desirable also to secure information about the background of the pupils, at least to the extent of knowing something of the socio-economic status of their homes, and the types of environment to which they were accustomed. Such information

¹Ibid., p. 10.

was necessary in order that any conclusions drawn from the study might be evaluated in terms of the type of pupil population involved, and their applicability to other pupil groups.

In harmon with the foregoing analysis the following facts were needed in this study about each pupil:

1. His chronological age.
2. His mental age.
3. A measure of his reading achievement.
4. A measure of his ability to read critically.
5. A measure of his attitude toward a topic of some common and current interest.
6. An understanding of the social and economic setting in which he lives.

The Comparison of the Critical Reading Ability of Pupil Groups

The fourth step in this investigation was to compare the critical reading ability of groups of pupils relatively unfavorable, relatively favorable, and relatively indifferent to the topic about which the reading was done. Securing data regarding the critical reading ability of these pupil groups presented certain very definite requirements as to procedure. It was necessary to develop, first, a test of critical reading ability, and to make allowances for factors other than attitude which might have a bearing on reading ability.

In comparing the critical reading ability of the pupil groups, it was assumed that an attitude which was neither strongly for nor strongly against the topic discussed in the test would not affect the ability of the reader to make correct interpretations of materials written about that topic. Therefore, comparisons were made between the critical reading of pupils favorable, and of pupils indifferent to the topic. In the same manner comparisons were made of critical reading done by pupils unfavorable to the topic with the critical reading done by pupils indifferent to the topic.

Requirements to Be Met in Carrying out the Plan of the Study

The Selection of Instruments

To obtain the information listed in the previous section it was necessary to use various types of data-gathering instruments. For the selection of these instruments there were both

general and specific requirements.

General requirements.---First, the instruments used must measure the skills or abilities about which information is sought with a degree of accuracy sufficient for the comparison of groups. Second, the instruments used must be valid measures of the qualities they purport to measure.

These two requirements applied to the measurement of reading ability, mental ability, and pupil attitudes.

Specific requirements.---With respect to the measurement of mental abilities a specific requirement was essential. It was necessary to use an instrument for the measurement of mental abilities that would take into account the difference between verbal and non-verbal abilities.

This requirement was adopted in view of the fact that recent investigations by Thurstone¹ and others have made apparent the presence of specialized mental abilities, such as those involving verbal skills. It would appear reasonable to suppose that the abilities necessary to the perception of meanings of written materials and their critical interpretation are likely to be closely associated with mental abilities which are verbal in nature. This supposition is verified in a study by Strang² who reported that "the relationship between certain standardized tests of reading comprehension and mental age based on language-test items is decidedly higher than with non-language mental age."

Since the purpose of this study was to discover the relationship between the attitude held by the pupil and his critical reading ability, taking into consideration his mental age, it is apparent that a measure of mental ability most closely related to the abilities necessary to reading comprehension is desirable. A measure of mental ability, therefore, which takes into account the above mentioned aspects of mental abilities was sought for use in carrying out this study.

¹L. L. Thurstone and Thelma Gwinn Thurstone, Factorial Studies of Intelligence, Psychometric Monograph No. 2. Published for the Psychometric Society by the University of Chicago Press, 1941.

²Ruth Strang, "Variability in Reading Scores on a Given Level of Intelligence Test Scores," Journal of Educational Research, XXXVIII (February, 1945), 440-46.

The Treatment of Data

The study required not only satisfactory instruments for gathering information about the attitudes, mental abilities and reading habits of the pupils, but also suitable means of making statistical analyses of the scores of various pupil groups on the measures used. In order to avoid errors due to inadequate sampling, it was necessary that the scores be secured from a large enough number of pupils so that stability in the data might be expected. For this reason it was desired to have groups having approximately forty as a minimum number.¹

The study further required a method of comparing the scores on the test of critical reading of pupils favorable to the topics chosen, with scores of pupils indifferent to the topics, taking into consideration the other variables which may also affect the reading achievement of these pupils. It was necessary, therefore, to indicate the significance of any differences in the mean scores of these groups, holding other variables constant. A type of statistical analysis of the data was therefore desired which would test for the significance of differences in the mean scores of groups, taking into consideration concomitant variables; namely, general reading ability, mental age, and chronological age.

Available Data-Gathering Instruments Suitable for This Study

Two tests which meet the requirements outlined earlier for data-gathering instruments, were available for use in this study; others were constructed by the investigator. A description of available tests used, together with an analysis of their appropriateness for the purpose intended follows.

The California Short Form Test of Mental Maturity.—A mental test was needed in this study which would give an indication of mental abilities most closely associated with the verbal aspects of mental ability. Such a measure is found in the California Short Form Test of Mental Maturity, which yields scores derived from tests of both language and non-language factors of

¹Karl J. Holzinger, Statistical Methods in Education, p. 19. Boston: Ginn and Co., 1928.

mental age.

The test is composed of six separate parts, or sub-tests, preceded by a test of visual acuity, designed to develop those pupils who might be handicapped in their performance on later sections of the test because of poor eye-sight. The first two tests in the series "reveal orientation in and ability to utilize spacial relationships." Test One measures the pupil's ability to discriminate between left and right, while Test Two reveals "ability to manipulate spacial imagery to a marked degree." In Test Three similarities are presented in non-verbal form, whereas Tests Four, Five and Six give a score based largely upon the understanding and manipulation of language. Each test is short; the longest time allowance suggested was ten minutes for an individual test.

The scores on tests One, Two and Three provide a measure of the mental age of the pupils when verbal factors are omitted, while tests Four, Five and Six give a score based largely upon the understanding and manipulation of language. Thus two separate Mental Age Scores may be recorded, a "Non-Language Mental Age," and a "Language Mental Age."

The California Short Form Test appears to have a suitable level of reliability. Reliabilities are reported by the authors for both the Mental Ages obtained from the Language and the Non-language Tests, using the split-halves method, and corrections by the Spearman-Brown formula. For the Language tests, using an N of 288, a reliability coefficient for the Total Mental Factors, based on both sections of the test is .934.¹

The tests make use of recent contributions of factorial analysis of concepts of mental ability and include tests in the areas of verbal ability, spacial relationships, logic and mathematical ability. Since objective criteria for the establishment of the validity of tests of mental abilities are extremely hard to obtain, evidence of the validity of these tests must rest chiefly upon the theory and method of their construction.

These tests were all administered by the investigator, and were machine scored, care being taken to insure a minimum of

¹Elizabeth T. Sullivan, Willis W. Clark, and Ernest W. Tiegs, Manual of Directions; California Short Form Test of Mental Maturity Intermediate S-Form, p. 1. Los Angeles, California: California Test Bureau.

error in checking. Directions were carefully and explicitly followed, and pupils responded in a serious and purposeful manner. Many expressed a desire to have the test results used by their teachers and guidance counselors in advising them as to vocational and educational decisions.

With respect to standards of reliability and validity, ease of administration, and objectivity of scoring, the California Short Form Test of Mental Maturity appears to be a satisfactory instrument to use in this study. The scores obtained represent the results of sincere and purposeful application on the part of the pupils tested, and may be taken as valid measures of their mental abilities.

The Cooperative English Test: Reading Comprehension Cl was chosen to obtain a measure of the pupils' reading ability independent of any consideration of attitudinal biases. This test of reading comprehension measures ability to read with penetration and discrimination a rather wide variety of materials. Some aspects of the reading process tested are very similar to those defined as a part of "critical reading" ability. Hence the test serves as an indication of the pupils' ability to do several aspects of critical reading on materials toward which he has no attitudinal biases. An inspection of the outline given as the basis for the construction of the Cooperative Test will illustrate this point:

"I. Vocabulary

"A. Recognition vocabulary

- "1. items using words of increasing difficulty
- "2. items requiring increasingly close discrimination among the choices

"II. Reading

"A. Determining the meanings of words from contextual clues

- "1. meanings selected to harmonize with the content
 - "a. words beyond recognition vocabulary
 - "b. words included in recognition vocabulary

"2. meanings determined by

- "a. figures of speech
- "b. tone of the writer

"B. Organizing meanings

- "1. connecting preceding thought with present and oncoming thought
 - "a. looking ahead; anticipating next statements
 - "b. finding antecedents of words and phrases in the selection

- "2. giving each element its appropriate weight

- "C. Construing the writer's meaning
 - "1. determining the central thought
 - "2. understanding statements from the passage which support the principal thought
 - "3. understanding new statements which support the principal thought
- "D. Drawing conclusions from the content
 - "1. making interpretations not stated in the passage about the central thought
 - "2. determining the writer's tone
 - "3. determining the writer's intent
 - "4. determining the writer's point of view
 - "5. recognizing the methods used in developing the passage
 - "6. evaluating the thought content
 - "a. determining the degree of logical consistency
 - "b. weighing the accuracy and adequacy of the writer's conclusions
 - "c. considering the reliability of the evidence
 - "7. generalizing by applying the conclusions to different situations."¹

It will be observed that sub-heads "B," "Organizing meanings," and "D," "Drawing correct conclusions from the content," involve much the same abilities as were designated in "seeing relationships," and "drawing correct conclusions" in the definition of critical reading as given in Chapter I. To this extent, at least, the test of critical reading, and the Cooperative Reading Test measure much the same things.

The validity of the Cooperative Reading Test is based on a thorough analysis of the reading process. The above outline was developed, and test items were constructed to measure the skills included in the outline.

The accuracy with which the Cooperative Tests determine ability to comprehend is measured by means of standard errors of measurement. These are expressed at several scaled score levels, and are given on the scoring keys for the various tests. For the Total Score, Reading Comprehension, these values indicate an accuracy of measurement entirely satisfactory for group measurement.

Concluding Statement

In addition to the two tests just described, instruments

¹The Cooperative Reading Comprehension Tests: Information Concerning Their Construction, Interpretation, and Use. The Cooperative Test Service, 16 Amsterdam Avenue, New York, N. Y., 1940.

designed to collect information about the critical reading ability of the pupils, and about their attitudes toward the topics chosen, were developed for this study. The instrument constructed to furnish information about the attitudes of the pupils, the Survey of Opinions, will be described in detail in Chapter IV, while information concerning the test of critical reading ability will be presented in Chapter III.

CHAPTER III

THE TEST OF CRITICAL READING

The purpose of this chapter is to describe the procedures necessary in developing the test of critical reading ability used in this study. The basic abilities involved in critical reading will first be considered, and the reading materials and test items used in measuring these abilities will be described. The method of selecting satisfactory test items, and evidence as to the usefulness of the entire test will also be presented.

The Type of Test Desired for This Study

As a preliminary to the discussion of the steps involved in the construction of the test, a study was made of the purpose to be served by it, and the qualities necessary for its usefulness in the conduct of this investigation. It was apparent that a test of critical reading ability was desired for the purpose of discovering the ability of pupils to read critically selections dealing with topics toward which a previously formed attitude was held. To achieve this purpose qualifications relating to (a) the test as a measuring instrument, (b) the subject matter of the test selections, and (c) the form of the test items required particular consideration.

Qualifications Necessary for the Test as a Measuring Instrument

As was stated in Chapter I, the test should attain a level of reliability essential for the accurate comparison of groups. It should also be a valid measure of critical reading. Since levels of reading ability within a given grade may vary widely, it follows that the test should offer items of sufficient range in difficulty to challenge the better readers in the grade, and to permit the poorer readers to meet with some success.¹

¹G. M. Ruch, The Objective or New-Type Examination, pp. 33-34. Chicago: Scott Foresman and Company, 1929.

Qualifications Necessary for the Subject Matter of the Test

The materials used in the test of critical reading must also meet definite requirements. First, the selections chosen should be written about a topic towards which attitudes are likely to be held. Criteria for the selection of such topics were outlined in Chapter II. Second, the nature of the subject matter should present opportunities for the reader to react according to his attitudinal biases. Materials were sought, therefore, which express diverging points of view, and which give the reader opportunity to evaluate arguments and evidence, and to make more or less difficult inferences in an area which might have an emotionalized setting.

Qualifications for the Form of the Test Items

It was thought desirable that the form of the test items be familiar to the pupils, so that the scores would not be affected by errors due to the pupil's unfamiliarity with the procedure, or by errors due to his reluctance to overcome difficulties inherent in a procedure new to him. It was thought desirable, also, that the form of test used be similar to the form used in the Cooperative Reading Test, since the scores on the latter were also used in the study. The test items should offer the pupil an opportunity to err in the direction of his bias. Therefore some of the alternative choices should seem plausible to those unfavorably inclined toward the topic. Similarly other alternative responses to the test items should seem plausible to those having a strongly favorable attitude toward the topic under consideration.

The purpose of the test, and the necessary qualifications listed above were important factors considered in all phases of the construction of the instrument. The first step, following a survey of the type of test desired, was to make an analysis of the abilities involved in doing critical reading, so that means of measuring these abilities might be devised.

The Abilities Involved in Critical Reading

The fact was stressed in Chapter I that reading is a

highly complex process, and that critical reading makes upon the reader the greatest possible demands in the apprehending and interpreting of meaning. The question naturally arises, exactly what abilities must the reader possess in order to be a competent "critical" reader? Evidence on this point secured from various sources will be considered next.

Sources from Which Information about
Critical Reading Abilities
Was Obtained

To identify abilities necessary to critical reading four sources of information were used. First, tests of critical thinking were examined to discover what aspects of critical thinking were included in them. Since critical thinking and critical reading are likely to involve similar mental processes, these tests appeared to be useful sources of suggestions in making an analysis of critical reading ability. Second, various commonly used tests of reading comprehension were searched for statements of the abilities such tests were designed to measure. Third, statements made by specialists in the field of reading were used to add to the lists of abilities thought necessary to competent reading. Fourth, and most important, the literature of research in reading, dealing with investigations of barriers to comprehension and with the identification of abilities necessary to comprehension, was examined. Of particular interest were those abilities enumerated which were associated with the function of the reader in going beyond the acquisition of the literal sense meaning to the interpretation of the material read in its broader aspects, including the wide background of ideas implied rather than directly stated.

The abilities suggested by tests of critical thinking.--

Many of the abilities stated as necessary to critical thinking in the tests examined apply to situations which do not involve reading. However, the following abilities mentioned may be considered applicable to situations in which reading is involved:

1. Ability to judge the probable truth or falsity and the relevancy of inferences drawn from given statements of fact.¹

¹Goodwin Watson and E. M. Glasser, Tests of Critical Thinking. Chicago: World Book Co., 1942.

2. Ability to perceive logical implications; namely whether the conclusions necessarily follow from the given evidence or premises.¹
3. Ability to see the need for careful definition of crucial words and phrases.²
4. Ability to identify propaganda devices and to be objective in treatment of them.³
5. Ability to judge relevance of arguments to the question.⁴
6. Ability to decide what are basic assumptions.⁵

The abilities suggested by tests of reading comprehension.--Test makers in the field of reading have made vigorous effort to sample a wide range of abilities involved in comprehension. Feder⁶ for example, in writing of the Comprehension Maturity Tests, states that the test "demands that the student evaluate the material before him, and discriminate among several responses of varying quality," and that the "psychological approach to the concept of maturity in reading is based upon demonstrable individual differences in the ability to perceive the interrelationships of ideas."

Various other abilities are tested by measures of reading comprehension. The "power of organization" is mentioned as an ability tested by the Sangren-Woody Reading Test. The ability to draw inferences from the ideas of a paragraph is tested by the Diagnostic Examination of Silent Reading Abilities, by M. J. Van Wagenen and August Dvorak. The Ingraham Clark Diagnostio Reading Test measures ability to make inferences and deductions, and to select and classify ideas. The Unit Scales of Attainment: Reading, by M. J. Van Wagenen tests ability to grasp the main idea, to understand context, to make inferences and to interpret meanings.

¹Ibid.

²Ibid.

³Progressive Education Association, Test 5.31, "Analysis of Controversial Writing."

⁴Progressive Education Association, Test 5.21, "Nature of Proof."

⁵Ibid.

⁶D. D. Feder, "Comprehension Maturity Tests - A New Technique in Mental Measurements," Journal of Educational Psychology, XXIX (November, 1938), 598.

The abilities enumerated or suggested by specialists in the field of reading.—Discussions by reading specialists of problems encountered in developing reading skills, or in the appraisal of growth in reading offer many statements of the various abilities necessary to adequate comprehension. The ability to discern the relationships between the parts of a sentence and between the sentences in a paragraph, for example, was mentioned by McKee.¹ Kopel enumerated some of the important aspects of good reading as follows: "Good reading ability is seen to encompass the power to think critically, skill in discovering relationships and establishing appropriate associations; the habit of weighing evidence and formulating relevant judgments; dexterity in locating reading materials pertinent to individual needs; and facility in adapting reading techniques for different purposes."² Wrightstone noted the following abilities increasingly included in reading tests: ". . . (1) ability to explain or support the ideas apprehended, (2) ability to evaluate or appraise the author's idea, (3) ability to make deductions and draw inferences on the basis of facts presented, and (4) ability to generalize or draw conclusions."³

Other suggestions include the ability to identify and judge the use of words arousing emotion,⁴ and ability to "give correct weight to each element of meaning."⁵ Durrell⁶ lists, among others the ability "to detect over-statements and unfounded claims."

Abilities enumerated or suggested by the literature of research in reading.—Research leading to the analysis of failure to comprehend reading materials, or to the identification of bar-

¹Paul McKee, "The Problem of Meaning in Reading," English Journal, XXX (March, 1941), 221.

²David Kopel, "Semantics and the Teaching of Reading," Educational Method, XXI (March, 1942), 275.

³J. Wayne Wrightstone, "Newer Appraisal Techniques in Language," Elementary English Review, XVIII (November, 1941), 248.

⁴Mortimer J. Adler, How to Read a Book: the Art of Getting a Liberal Education, p. 275. New York: Simon and Schuster, 1940.

⁵Thorndike, op. cit., p. 327.

⁶D. D. Durrell, Improvement of Basic Reading Abilities, p. 248. Yonkers-on-Hudson, New York: World Book Company, 1940.

riers to adequate comprehension offers further suggestions for the abilities essential to comprehension. Luthi, for example, noted the following difficulties in comprehension as being frequently observed: (1) difficulty in the organization of ideas, and (2) inability to make inferences or do deductive reasoning.¹ Young, in reporting recent research in reading, quoted an unpublished Doctor's thesis by Clara M. Wallace, in which it was stated that the children found it difficult "to make inferences from given facts, to put the thought into written language, to comprehend negative items, and negative statements, to grasp the meanings of figurative expressions, to develop a time sense, to understand the seasons, and to comprehend technical and difficult words."²

Bell found that most errors in comprehension occurred in questions dealing with incidents that form part of the story.³ Fewer errors in questions dealing with detail were observed, and fewer still in questions that depend on a grasp of the main plot. Other difficulties discovered were in making difficult inferences, and in "reading in" what was not in the text. H. M. Young reported difficulties encountered in the reading of a single sentence in context. The following were discovered: "Mere verbal manipulation . . . misinterpretation of a word not read in the light of its context; omission of some part of the meaning, sometimes a most important part; self-contradictory, muddled statement; contradictory points of view; mistaken interpretation of point of view; unwarranted expansion; evasion by using a word or words to be explained; inability to write clearly and idiomatically."⁴

Flesch has suggested the use of the number of "abstract" words, and the number of prefixes, suffixes and inflectional end-

¹Loren R. Luthi, "A Case Study of Reading Comprehension Difficulties in Science Materials," Science Education, XXV (October, 1941), 258-59.

²William E. Young, "Recent Research in Reading in the Social Studies," Education, LXII (September, 1941), 21-22.

³Harry Bell, "Comprehension in Silent Reading," British Journal of Educational Psychology, XII (February, 1942), 35.

⁴Helen M. Young, "Reading a Sentence: An Exercise in the Study of Meaning," English Journal, XXX (June, 1941), 451-52.

ings as two measures of difficulty of magazine articles.¹ Looby noted that many errors made by children were caused by ignoring the context. For example, the pupils thought that "Greek hosts" were "men who gave parties."² Hilliard attempted in an earlier investigation to list and classify all difficulties in comprehension known to educators. He chose six for analysis, and found that intelligence and vocabulary outranked all other factors investigated. Organization, as a factor, had a noticeable, but lesser effect.³

Of major importance in contributing to the understanding of the nature of comprehension has been the research concerned with various aspects of comprehension. For example, Gibbons found a positive correlation between ability to see relationships between parts of a sentence and ability to understand the sentence.⁴ Pickford asked subjects to read orally ten different passages. Some of the selections were single units of prose; others were "double," that is, each half was from a different source. Still other selections were "triple" with an unrelated portion inserted in the middle. From his observations of the subjects' attempts to understand these selections, the author concluded:

1. In reading compound or simple passages there is a tendency towards synthesis of their parts. This tendency is expressed in various mental processes and in interpretations of the matter read. It may persist even after the perception of the compound nature of a piece of writing is gained. It is primary in function in reading, and is the normal basis of the process of reading.

2. In reading compound or simple passages there is also a tendency to take them as fragmentary. This tendency is secondary in function. It is present normally and leads to criticism and understanding of the nature of a passage, but it develops fully only when the tendency towards synthesis is

¹Rudolf F. Flesch, "Estimating the Comprehension Difficulty of Magazine Articles," Journal of General Psychology, XXVIII (January, 1943), 63-80.

²Ruth Looby, "Understandings Children Derive from Their Reading," Elementary English Review, XVI (February, 1939), 60.

³George Horatio Hilliard, Probable Types of Difficulties Underlying Most Skills in Comprehension Tests. University of Iowa Studies in Education, Vol. II, No. 6. Iowa City, Iowa: University of Iowa, 1924.

⁴Helen D. Gibbons, "Reading and Sentence Elements," Elementary English Review, XVIII (February, 1941), 42-46.

stopped.

3. Either tendency may lead towards meaning, and to the completion of the act of reading. By whichever tendency meaning is reached, however, it is ultimately a matter of synthesis.¹

Langsam used factorial analysis to discover: "(1) the factors revealed by a diversified battery of tests of reading ability, and (2) the loading that each factor evidences in each of these tests." Results of the analysis indicated the presence of a "verbal factor," which "reflects an ability to deal with verbal materials," a "perceptual factor," appearing to be a "facility in perceiving detail," a "word factor" and a "number factor." A fifth factor tentatively identified as "seeing relationships" was also found. The author suggests that the last named factor possibly involves "logical organization and selection of pertinent ideas."²

Factor analysis was also used by Davis who obtained two measures of reading, "Word Knowledge" and "Reasoning in Reading." The latter is composed of reading skills that "require ability to infer meanings and weave together several statements."³

The Organization of Enumerated Statements of Reading Abilities

The foregoing enumeration of abilities necessary to comprehension gives evidence of a wide range of reading abilities. Before the enumeration was useful as a guide in solving the problem of what abilities should be included in a test of critical reading ability, it was necessary to organize the various related statements under appropriate headings. Therefore the statements were grouped according to similarities. As a result four major headings evolved, which were stated as follows:

1. Getting the meaning of words and phrases.
2. Seeing relationships.

¹R. W. Pickford, "The Tendency towards Synthesis in Reading," British Journal of Psychology, XXIV, Part I (July, 1933), 65-66.

²Rosalind S. Langsam, "A Factorial Analysis of Reading Ability," Journal of Experimental Education, X (September, 1941), 57-63.

³Frederick B. Davis, "Two New Measures of Reading Ability," Journal of Educational Psychology, XXXIII (May, 1942), 368-69.

3. Making evaluation of the materials read.
4. Making deductions or generalizations from the ideas apprehended.

Each of these major aspects will be considered in detail in the sections which follow.

Getting the meaning of words and phrases.--The ability to understand the meanings of words is basic to the comprehension of reading materials. It was found by Hilliard to rank next to intelligence as an important factor in comprehension.¹ Its appearance as a significant aspect in the factor analyses of reading comprehension made by both Langsam² and Davis³ is further evidence of its importance. In accordance with the findings of these and other investigators, this ability is considered to be essential to critical reading. Sub-topics associated with the major topic, "Getting the meaning of words and phrases" were stated as follows:

1. Selecting meanings suitable to the context.
2. Understanding metaphor.
3. Understanding special or abstract terms.

Seeing relationships.--The ability to perceive relationships existing between the words, sentences, and paragraphs, or other larger parts of a selection appeared also to be basic to comprehension. Pickford's study gave evidence of the importance of synthesis in gaining meaning--a process of seeing the relationship of the parts to each other, and of the parts to the whole.⁴ The ability to perceive relationships was also tentatively identified as a factor in comprehension in the analysis made by Langsam.⁵ The same ability was mentioned by Gibbons, Thorndike, Koepel, McKee, and Luthi, as cited in the previous section. It is apparent that reading which achieves a high order of understanding and interpretation could not occur without the perception of relationships involving the different parts of the selection, or even the relationships between the entire selection and other accounts of the same subject.⁶ Sub-topics illustrating the primary

¹Hilliard, op. cit., p. 58.

²Langsam, op. cit., p. 62.

³Davis, op. cit., p. 368.

⁴Pickford, op. cit., pp. 65-6.

⁵Langsam, op. cit., p. 62.

⁶Since the organization of the test materials presented

ability, the ability to see relationships, were then stated as follows:

1. Understanding organization.
2. Relating different accounts of the same subject.
3. Relating the facts and opinions expressed in the selection to the time of writing.
5. Relating the material read to plans for action.
4. Relating facts given in the selection to facts already known to the reader.

Making an evaluation of the materials read.--The need for the evaluation of reading materials appeared also to be an ability basic to critical reading. It was mentioned as essential by many of the investigators quoted, particularly by Kopel¹ and Wrightstone.² It is a prominent factor in critical thinking, according to the tests of critical thinking examined. Aspects of the ability to evaluate materials, particularly the ability to discriminate between relevant and irrelevant statements, are measured by tests of reading ability. Its importance may perhaps be more clearly estimated by supposing a situation in which reading materials were not evaluated in any sense by the reader. The term "uncritical" might then well be applied to such a reader, if he made no effort to judge the worth or the purpose of the materials at hand, and passively received such ideas as the author saw fit to give him.

Three sub-topics were associated with the ability to evaluate the materials read:

1. Judging the relevance of the material read to the reader's purpose.
2. Judging the author's competence.
3. Judging the validity of arguments.

Drawing inferences and conclusions from the materials

in this study, a list of basic skills in comprehension has been published which included "Ability to follow the organization of a passage and to identify antecedents and references in it." See Frederick B. Davis, "Fundamental Factors of Comprehension in Reading," Psychometrika, IX (September, 1944), 185-97.

¹Kopel, op. cit., p. 275.

²J. Wayne Wrightstone, "Newer Appraisal Techniques in Language," Elementary English Review, XVIII (November, 1941), 248.

read.--The critical reader must go beyond the literal or sense meaning of the passage to make inferences about the author's intent, and the meanings implied, rather than directly expressed, in the selection. The ability to make such inferences was mentioned by Luthi as being essential to adequate comprehension, and as an aspect of the reading process which frequently is the cause of difficulty.¹ Research quoted by Young gave evidence, also, that pupils find it difficult to "make inferences from given facts."² Similar findings were reported by Bell.³ It is apparent that reading characterized by a high quality of understanding and genuinely penetrating insight into all phases of the meanings involved, requires the ability to make inferences and arrive at conclusions on the basis of the material read. Such abilities were assumed to involve the following activities:

1. Making inferences about the author's bias, purpose, mood, tone, intention.
2. Predicting outcomes.
3. Forming generalizations applicable to similar situations.
4. Reaching conclusions on the basis of facts presented.

The complete outline of the abilities enumerated under the four major headings discussed in this section will be found in the appendix.

The Construction of the Test of Critical Reading

The next step in evolving a test of critical reading was to select suitable reading materials to be used in measuring the abilities which have been enumerated as essential to critical reading. As was stated in the section outlining the qualifications necessary for the test, the materials used should be concerned with topics toward which the pupils may reasonably be expected to have an attitude. Also stated as criteria for the selection of the test materials were availability, present interest, and relationship to school experience. On the basis of these qualifications materials were chosen for two sections of the test of critical reading which related to the Negroes and the Germans re-

¹Luthi, op. cit., p. 259.

²William E. Young, op. cit., p. 21.

³Bell, op. cit., p. 55.

spectively. These two subjects appeared to be satisfactory in meeting the criteria established. First, they were topics of current interest at the time the tests were given. The race problem, especially as it relates to the Negro in the United States, has been the subject of articles, books of fiction, plays, short stories, and a considerable number of sociological studies. The increasing number of books for older children and adolescents have brought the matter of race relations to the attention of youth of junior high school and high school age.¹

The many questions regarding the solution of race problems have been increasingly related to the school experiences of young people. In a survey of twenty-one city and state courses of study in the social studies, Storm noted the emphasis on intercultural relations and the plans for the inclusion of materials for the bettering of race relations in the United States.² An example of the effort to provide school experiences leading toward racial tolerance and understanding has been described in an account of a plan carried out in a New York high school.³ An extended treatment of plans for enriching the social studies curriculum for the purpose of leading the pupils to know and appreciate the contributions of the Negro to American life is found in a recent course of study.⁴

In addition to its timeliness, and the availability of materials in the school situation, the topic of race appeared to be one about which adolescents could be expected to have some fairly definite attitude. Previous studies have already indicated that high school pupils and younger children exhibit feel-

¹For example, books dealing with Negro subjects, if not directly with race problems are: Mrs. Florence C. Means, Shut-tered Windows. Houghton, 1938. Arna Wendell Bontemps, Golden Slippers: An Anthology of Negro Poetry for Young Readers. Harpers, 1941.

It is interesting also to note that twelve different books are listed under the heading, "Negroes" in the Standard Catalogue for High School Libraries. 4th ed. New York: H. H. Wilson Company, 1942.

²Grace E. Storm, "Recent Trends in the Teaching of Citizenship," Elementary School Journal, XLIV (February, 1944), 327-36.

³Florence C. Adler, "Toward Good Will," High Points, XXVI (June, 1944), 17-28.

⁴William H. Johnson, Superintendent of Schools, "Supplementary Units for the Course of Study in Social Sciences" Grades 7-8. Chicago: Bureau of Curriculum, City of Chicago, 1942.

ings of tolerance and of aversion toward the Negro.¹

Materials relating to the German people also appeared to possess the qualifications established as desirable for test materials. The problem of what to do with the German people, or how to feel toward them, was of real interest at the time the tests were constructed and administered. A stronger interest might have been evidenced had the events after D-Day, and the publicity given the discoveries of the concentration camps been experienced prior to the giving of the tests. As it was, however, the Germans, as enemies, were widely discussed by persons in all areas of American life.

The Germans, directly or indirectly held to be responsible for the tensions and anxieties of war, appeared to be very likely objects of some feeling reaction. Furthermore, some discussion of the problem relating to the German people might very frequently occur within the framework of school experiences. A study of current events, "modern problems," post war problems, or social studies units concerned with European peoples and their history, could scarcely avoid a reference to Germany, her people, and the problems created by recent events in which Germany has had so large a part.

Sources and types of materials used in the test.---The passages used in the test consist of two and three paragraph excerpts from longer prose treatments, and three short poems, none over five stanzas in length. The section concerned with the Negro contains an excerpt from a newspaper column in the Chicago Defender, by Langston Hughes; a poem, "Confession," from Copper Sun, by Countee Cullen; and five stanzas of a longer poem, "Nigger" by Frank Horne; "I, too," a poem by Langston Hughes from his collection entitled the Dream Keeper. A prose selection written by the investigator is also included.

The section of the critical reading test containing materials about the Germans is composed of prose selections only. The first selection consists of two paragraphs from a book, The Roots of the Trouble, by Lord Vansittart, an English author whose views on the Germans received considerable publicity in this country. The second selection is an excerpt from an historical

¹Ruth C. Peterson and L. L. Thurstone, Motion Pictures and the Social Attitudes of Children. New York: Macmillan Company, 1933.

account of the many dictators who have figured in world history, Men of Power, by Albert Carr. The book is one which high school social studies classes known to the writer have found useful. The third selection was written by the investigator, and has for its purpose the illustration of two current points of view about the German people. The last selection is an excerpt from a current periodical, The Commonweal. Although these materials, with the exception of the selection from Men of Power and the Commonweal are not so likely to be readily accessible to high school pupils, they do represent points of view and types of discourse on the question, which might be encountered in any reading on the subject.

Preparation of the Test Questions

When prepared in test form each selection to be read was followed by several multiple-choice questions. An example of a reading selection and the related questions follow.

Our ideas of the German people are very muddled, and no wonder. On the one hand we have memories of a pleasant, happy, kindly folk, singing Christmas hymns, and patting the heads of rosy-cheeked, yellow-haired children. In great contrast to this picture are accounts of concentration camps, brutal shootings, enslavement of free nations, treatment of helpless peoples which challenges belief in human kindness. Which is the true picture of Germany?

It might help if we recognized the fact that Germans have always considered themselves a "master race" and the ruling of the world their natural destiny. Frederick the Great, Bismarck, Kaiser Wilhelm II, and Adolf Hitler, therefore, are no accidents. The theory of "blood and iron" is no new one in the German scheme of things. Be assured that Hitler's long-announced policies of conquest, race-hatred, and power gained through ruthless murder, are more truly representative of the German people than we have realized.

No gentle, half-way measures are apt to be understood by the German mind when this war is over. Force is the only thing they know. Germany must be treated as an outlaw among nations. Anything else would endanger the peace for the next hundred years.

1. The purpose of the first paragraph is to
 - 1.1 show the brutality of the German people.
 - 1.2 prove that the German people are a happy, kindly folk.
 - 1.3 raise a question which will be answered in a later paragraph.
 - 1.4 bring to the attention of the reader his muddled state of mind.
2. The words "human kindness" used in line 7 mean
 - 2.1 expected consideration for others.
 - 2.2 the human race.

- 2.3 noble generosity
- 2.4 man as distinct from animal life.
- 3. The theory of "blood and iron" refers to
 - 3.1 economic control of small countries having valuable mineral resources.
 - 3.2 the natural vigor and vitality of a people.
 - 3.3 strict insistence upon national purity of race.
 - 3.4 using war as a means of getting more territory.
- 4. It is evident that the author
 - 4.1 has kept very kindly memories of the Germans.
 - 4.2 has considerable dislike for the German people.
 - 4.3 is uncertain what position to take about the Germans.
 - 4.4 dislikes the German leaders, but admires the people.

Reasons for selecting multiple-choice type of test items.--

The decision to use the multiple-choice type of question was made because of its advantage in providing for objectivity and economy of time in scoring. Its form is also like that of the other reading test used, The Cooperative Reading Test. In addition to these considerations, this type of item was recommended by Lee as "one of the best means for testing judgment that is available."¹

One very pertinent objection to a type of test which suggests responses has been voiced by Zahner² who points out the inescapable limitation that the questions suggest mental activities which in ordinary reading situations are dependent upon the alertness and initiative of the reader himself.

While the limitations of the multiple-choice type of test are readily admitted, its advantages, as enumerated above, appeared to make it desirable for this investigation. As shown in the illustration, the questions used in the test are of the four-response type, excepting a few items using three questions. A correction formula is not necessary when this number of responses is used.³

Purposes to be achieved through the test items.--Two major purposes were to be achieved through the use of the items in the test of critical reading. First, they were to measure the pupils' ability in each of the four aspects of critical reading defined in the previous section, and second, to provide an opportunity for the operations of the reader's bias in selecting re-

¹J. M. Lee, A Guide to Measurement in Secondary Schools, p. 379. New York: D. Appleton-Century Co., 1936.

²Louis C. Zahner, "The Testing of Comprehension," Educational Record, Supplement No. 13, XXI (January, 1940), 71-84.

³Lee, op. cit., p. 385.

sponses to the test questions. In an attempt to achieve the first purpose, test items intended to measure each of the four major abilities were constructed. The first ability, the ability to understand words and phrases, was tested by items like the following:

- 20. The phrase in line 9, "Once the die was cast" means
 - 20.1 no choice is possible.
 - 20.2 when the course was chosen.
 - 20.3 when the shape was decided upon.
 - 20.4 when all hope was lost

As an example of a question intended to test the ability to see relationships, the following item presents the reader with the need for comparing three similar selections:

- 60. In which of the following ways are the three poems you have just read alike?
 - 60.1 They are written in a tone of bitterness and resentment.
 - 60.2 They exaggerate the persecutions suffered by the Negro.
 - 60.3 They show that the Negro will improve in the future.
 - 60.4 They show some reaction to prejudice.

The reader is asked to make inferences about the author in the following question:

- 2. The author is evidently
 - 2.1 friendly toward the Germans.
 - 2.2 critical of Germany's people as well as their leaders.
 - 2.3 in favor of militarism.
 - 2.4 opposed only to the policy of German leaders.

An evaluation of the usefulness of the material for a particular purpose is called for in the following:

- 11. Which of the following persons would be most likely to use these paragraphs?
 - 11.1 someone searching for evidence of the persecution of the Jews.
 - 11.2 A student preparing a class report on the Nazi party.
 - 11.4 A news commentator preparing a talk on "How to Defeat Germany."

A second purpose to be served in the test items was to give the reader an opportunity to answer in the direction of his bias. An example of the provision made for the bias of the reader to sway his choice of response is given in the following example.

The indented stanzas are

- a. illustrations of the persecution of the Negro.
- b. illustrations which develop the main theme of the poem.

- c. statements of the main theme of the poem.
- d. additional arguments for the inferiority of the Negro.

Response "d" provides an opportunity for the person unfavorable to the Negro to mark the response in accordance with his own feeling that the Negro is inferior. In so doing, the reader disregards the fact that the portion of the selection in question had nothing to do with arguments for inferiority.

Similar opportunities were offered the favorably inclined, as in the example which follows:

We may conclude that:

- a. we should give the benefit of every doubt to the Germans.
- b. in a democracy good will always predominates over evil.
- c. the same environment may produce both good and evil people.
- d. our enemies differ widely in character from ourselves.

Here response "a" may be chosen by one whose attitude toward the Germans is favorable, although the response warranted by the selection read is clearly response "c."

The Selection of Suitable Test Items

Questions to be answered concerning the test.--Before any of the test questions were used it was necessary to evaluate each one for the purpose of discovering its usefulness in achieving the purposes of the test. Answers to the following questions about the test items were sought:

1. Are the questions clearly stated?
2. Is the response thought by the writer to be correct clearly the correct answer?
3. Do the test items actually provide opportunity for biased reactions?
4. Do the test items actually measure the abilities which they were designed to measure?
5. Are the test items discriminating?

To obtain answers to these questions two procedures were adopted. First, the entire test was submitted to a group of judges who reacted critically to each item. Second, a trial form of the test was submitted to a small group of pupils.

The work of the judges.--The test was submitted to five judges. Three of them were graduate students specializing in

reading. Another was a reading specialist in a large city school system, and the fifth was a teacher-librarian with wide experience in the field of reading materials for high school youth.

The following directions were given to these judges:

1. Put a check mark in the margin at the left of the correct response to each item.
2. Decide whether or not the comment in parenthesis accurately describes the ability which that question tests. IF, IN YOUR JUDGMENT IT DOES NOT, check it also.
3. Place a plus (+) mark in the left margin opposite all those choices in response to the question which you think show a bias in a favorable direction toward the group read about.
4. Place a minus (-) mark in the left margin opposite all those choices in response to the question which you think show a bias in an unfavorable direction toward the group read about.

(Note: Not all questions may be marked; the correct answer, presumably, is not biased, and only one biased response is included per question.)

Example: "Any such chance" in paragraph two of the selection means

-a. An opportunity to live better near the factories.
-b. A chance to raise the standards of the masses.
-c. The backward ways of old Russia.
-d. The fearful oppression under the Soviet regime.

(Getting the meaning of words and phrases - understanding metaphor.)

Since you decide that there is nothing "metaphorical" in the selection, you check the last statement as wrong. Response to "b" you mark as the correct answer, and decide that "d" may reflect an unfavorable attitude toward the Russians.

To clarify further the understanding of the judges with respect to the terms used in the outline the following definitions were given:

The bias of the author.--The author's prejudices, his disposition to incline toward one or the other side of an issue.

The purpose of the author.--For what reason the author included a statement. Why did he choose this particular word or expression? What does he wish us to understand, or to what point does he wish us to agree?

The point of view of the author.--This term differs from "bias" in that it carries less of an emotional connotation. Simply stated, it means from what position does he look at the subject matter under discussion? What is his stand on the question?

Detecting the emotional connotation of words.--We are here asked to infer the presence of emotive power of a word put in a certain setting. For example, "the Nazi" very definitely carries feelings of dislike; the "democratic," the "American" or the "Christian," have exactly the opposite effect upon our feelings.

Inferring about ideas not directly expressed.--The reader is asked to go beyond the literal sense meaning of the material to come to a decision. The inference may deal with subjects other than those previously mentioned above.

Predicting outcomes.--The reader is asked to decide what will probably result if the author's ideas are applied, or if a trend noticed in the presentation is carried further.

Reaching conclusions on the basis of data presented.--The reader draws conclusions based on facts presented in the material. He is asked not to go beyond the data available directly in the text.

The reactions of the five judges provided answers to the questions asked about the clarity, correctness of response, and validity of the test items. If the same answer was not checked as the correct response by four of the five judges, the item was discarded. In like manner agreement of four judges was set as the requirement for the retention of test items under each category. For example, Item 10 may have been designed to test ability to see relationships. If it appeared to serve that function to only three of the judges, it was not used in the final form of the test.

The fourth question regarding provision for the operation of the reader's bias in choosing his responses, was much more difficult to answer. The concurrence of three of the five judges was used as the basis for judgment. As a result there were retained in the test fifteen items in which biased responses were judged to be present.

The application of a trial form.--A trial form of the two sections of the test, containing a total of eighty test items was then submitted to a group of sixty-five eighth grade pupils. These pupils were above the average in intelligence and in reading ability, as shown by the distribution of test scores in Tables 1 and 2.

The distributions of scores on the two sections of the trial form of the Critical Reading Test are shown in Table 3 and Table 4.

TABLE 1

DISTRIBUTION OF INTELLIGENCE QUOTIENTS FOR
76 EIGHTH GRADE PUPILS

I.Q.	Frequency
159.5 - 169.5	3
149.5 - 159.5	8
139.5 - 149.5	9
129.5 - 139.5	15
119.5 - 129.5	16
109.5 - 119.5	12
99.5 - 109.5	4
89.5 - 99.5	6
Total	75
Mean	128.63
Standard Deviation	9.98

TABLE 2

DISTRIBUTION OF SCORES ON THE COOPERATIVE
READING TEST FOR 60 EIGHTH GRADE PUPILS

Scores	Frequency
76-79	1
72-75	1
68-71	5
64-68	6
60-63	6
56-59	8
52-55	9
48-51	8
44-47	6
40-43	8
36-39	2
Total	50
Mean	54.63
Standard Deviation	9.82

TABLE 3

DISTRIBUTION OF SCORES ON A TRIAL FORM
OF THE CRITICAL READING TEST (NEGRO
SECTION) FOR 54 EIGHTH GRADE PUPILS

Scores	Frequency
36-39	2
33-35	9
30-32	15
27-29	11
24-26	6
21-23	4
18-20	5
15-17	1
12-14	1
Total	54
Mean	28.06
Standard Deviation . . .	5.47

TABLE 4

DISTRIBUTION OF SCORES ON A TRIAL FORM
OF THE CRITICAL READING TEST (GERMAN
SECTION) FOR 67 EIGHTH GRADE PUPILS

Scores	Frequency
35-37	1
32-34	4
29-31	10
26-28	12
23-25	15
20-21	9
17-20	7
14-16	4
11-13	4
8-10	0
5-7	1
Total	67
Mean	24.4
Standard Deviation . . .	6.12

As a result of the preliminary try-out of the Critical Reading Test, several unsatisfactory, or apparently non-discriminating items were eliminated or revised. Items were considered as non-discriminating which did not differentiate between the eleven pupils who made the highest total scores of 33 to 36 inclusive, on the Negro section of the test, and the eleven pupils who made the lowest total scores of 12 to 23, inclusive, on the same section. Comparisons of items in the German section of the test were made in a similar manner.

Analysis of individual items showed the need for further corrections and revisions. It was discovered, for example, that some of the choices in the four-response items were not marked by any of the pupils. Such items were accordingly revised to make the distracting choices more plausible. Another difficulty was evident from the fact that some of the questions were correctly marked by less than twenty-five per cent of the pupils. These items were obviously too difficult for use with a group of pupils having average reading ability, and were accordingly revised or omitted when revision was not practical.

The completed test in its final form will be found in the Appendix.

Evaluation of the Critical Reading Test

Evidence as to the Reliability of the Test

Evidence as to the reliability of the test of critical reading was found by computing the coefficient of correlation between the odd and even scores of the trial form after items found to be undesirable were eliminated. This was done for the scores of the fifty-four pupils in Grade VIII who completed the Negro section. This coefficient was found to be .6543, which becomes .7910 when "stepped up" by the Spearman-Brown formula. The reliability of .79 is not acceptable for the purpose of making comparisons of individuals. There is a general agreement, however, that an r of .70 or more indicates a fairly high degree of relationship,¹ and one adequate for the comparison of groups.

The German section of the test was found to have a coef-

¹Henry E. Garrett, Statistics in Psychology and Education, p. 298. New York: Longmans, Green and Company, 1926.

ficient of .789 when corrected by the Spearman-Brown formula.

Since the characteristics of the pupils in Grade VIII, the pupil group using the trial form of the test, appeared to differ somewhat from those of the pupil population tested by the final form, it was thought wise to compute reliabilities using the scores of the larger pupil group. Accordingly, odd-even correlations were computed for 100 cases chosen at random. These correlations were found to be .805 for the Negro section, and .783 for the German section.

These reliabilities may have been affected by the fact that the group from which the scores were obtained included only one grade. The relationships given, therefore, are to be considered in the light of the fact that a wider "range of talent" generally results in a higher reliability coefficient.

Evidence as to the Validity of the Test

The validity of the Critical Reading Test may be partially determined by comparison with the Cooperative Test. The latter test is designed to evaluate many of the abilities included in those measured in the test of critical reading. It is likely, therefore, that the relationship of scores on the two tests will be fairly close, if the critical reading test measures some of the same abilities. Since the factor of favorable or unfavorable attitudes may have some influence upon the quality of interpretation, the scores used for the basis of comparison were those obtained from the "indifferent groups": that is, those whose scores on the Survey of Opinions indicated no particular feeling of favorableness or unfavorableness toward these two peoples. Correlations of the scores of the Critical Reading Test (Negro section) with the Cooperative Reading Test were found to be .623, using an N of 223. These coefficients are not high, but they do indicate a considerable degree of correspondence in the two tests.

Further evidence of the validity of the Critical Reading Test rests upon a consideration of the method of its construction, and the judgment of the qualified persons who examined the test questions for the purpose of determining whether or not they were prepared so as to test the aspects of reading ability they were intended to test. The following statement by Lindquist lends support to this view: "In most instances, particularly in

educational achievement testing, final judgment as to the validity of a test must be based primarily on a subjective appraisal of the detailed content of the test in relation to an authoritative description and competent logical analysis of the trait or objectives to be measured."¹

Limitations of the Test

As was previously stated, the test of critical reading is not suited to comparisons of individuals, since it is not sufficiently reliable for that purpose. This limitation, however, does not impair its usefulness for this investigation, as group comparisons only are desired.

The impossibility of checking the validity of the test against an objective, outside criterion may also be considered a limitation of the test. If so, it is admittedly a limitation which can not be overcome, since there does not exist, at present, such a suitable criterion.

¹E. F. Lindquist, A First Course in Statistics, Their Use and Interpretation in Education and Psychology, pp. 210-11. New York: Houghton Mifflin Company, 1938.

CHAPTER IV

THE SURVEY OF OPINIONS

This chapter is concerned with the nature of the instrument needed in this study for the measurement of pupil attitudes toward the Negro and the Germans, and with the construction, administration, and scoring of the records secured through the use of such an instrument, hereafter designated as the "Survey of Opinions." Preliminary to a discussion of the steps taken in the development of this instrument, the methods by which previous investigators have measured attitudes will be briefly reviewed, and the advantages and disadvantages of each method will be discussed. On the basis of this examination, criteria for the selection of the method to be used in this study, and for the selection of attitude statements used in the construction of the instrument will be presented. Finally, the usefulness of the Survey of Opinions will be critically considered.

Examination of Techniques Used by Investigators in the Measurement of Attitudes

A preliminary survey of the techniques used in attitude measurement shows that the critical issues faced in measuring attitudes center about the following questions: (a) What is an attitude? and (b) What type of behavior of the subject is acceptable as a valid indication of that attitude?

Definition of the Term, "Attitude"

The term "attitude" has been defined by Thurstone as the "sum total of a man's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats, and convictions about any specific topic."¹ The word "opinion" is defined by the same author as "a verbal expression of attitude." Droba summa-

¹L. L. Thurstone and E. J. Chave, The Measurement of Attitudes, pp. 6-7. Chicago, Illinois: The University of Chicago Press, 1929.

rized the use of the term by various writers in the field of social science and concluded: "There is pretty general agreement among the writers in this field that an attitude is a certain subjective state of preparation to action. It is the foreshadowing of what the individual will likely be doing with respect to the attitude in question."¹

The term "opinion" is again defined as "a verbal expression of attitude."² Some skepticism has been expressed about the validity of accepting the verbal expression, or "opinion" as an indication of attitude.³ It has, of course, been pointed out that the expression of an opinion may be quite unlike the subject's real feelings, which he wishes to conceal, and does so effectively by making statements which deliberately mask his true feelings, so that his later behavior will not be in harmony with the opinions expressed.

Means by Which Attitude May Be Measured

If "attitude" is defined as a tendency to act in a certain way, then the measurement of an attitude ought to be some indication of the manner in which the person will act if given an opportunity. Corey conducted an investigation of the relationship of the expressed attitudes of college Freshmen toward cheating, and the amount of cheating done.⁴ The conclusion was drawn that verbal expression did not predict with accuracy actual behavior in this situation.

In the light of this and other criticisms of the "verbal" statement of attitude, actual overt behavior might be observed. For example, if an individual took an active part in a race riot, it would be justifiable to conclude that he held an unfavorable attitude toward that race. However, measurement by means of

¹D. D. Droba, "The Nature of Attitude," Journal of Social Psychology, IV (November, 1933), 447.

²Ibid., p. 458.

³The Emotionalized Attitudes: The Contribution of Research to Teachers Concerned with Learning, Conduct and Character, by members of Education 335-336M. With an Introduction by Thomas H. Briggs. New York: Teachers College, Columbia University, 1940.

⁴Stephen M. Corey, "Professed Attitudes and Actual Behavior," Journal of Educational Psychology, XXVIII (April, 1937), 271-80.

direct observation of behavior, even in an instance apparently so obvious, does not always result in valid inferences about attitudes. Many persons join organizations, associate themselves with movements and otherwise indicate interest in and support of objects or institutions toward which they "really" feel some aversion or indifference. Social pressures exerted by family or community may make it expedient to do what is expected, rather than what is preferred. Furthermore, it is impossible to stage a riot, or even some milder form of overt demonstration, for the purpose of testing attitudes, even if it were desirable. For the most part, therefore, the measurement of attitudes has depended upon the measurement of attitude as inferred from verbal expressions.¹

Survey of Techniques of Attitude Measurement

The development of attitude scales.---The most widely used technique has been that devised by Thurstone² and his students in the development of attitude scales. In this method the distribution of attitude of a group is represented in the form of a frequency distribution along a base line which represents the entire range of attitude from extremely favorable to extremely unfavorable. The base line has as its unit of measurement equal appearing intervals, determined by the "weighting" given each "opinion" by a large number of judges.

In the preparation of his scales, Thurstone gathered over a hundred statements of opinions about the topic in question, edited them for obvious ambiguities, and submitted these statements to two or three hundred judges. The latter sorted the statements into eleven piles, making "an evenly graduated series" of opinions ranging from those very much in favor of the subject under investigation, to those very much opposed to it. Scale values assigned to each statement were then determined by the median

¹Summaries of various methods of attitude measurement may be found in: Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, Experimental Social Psychology. New York: Harper Brothers, 1937. (Revised.)

The Emotionalized Attitudes: The Contribution of Research to Teachers Concerned with Learning, Conduct, and Character, by the members of Education 335-336M, 1938-39. With an introduction by Thomas H. Briggs. New York: Teachers College, Columbia University, 1940.

²Thurstone and Chave, op. cit.

ranking of the judgments of each statement. Items which had been placed in widely different places on the scale by the judges are eliminated, as are statements shown to be ambiguous. For example, if a statement favorable to the topic is frequently endorsed by persons who also endorse statements unfavorable to the topic, it is assumed that such a statement is not helping to measure the attitude in question.

The method of scale construction outlined above has several advantages. In the first place, units on the scale are equal, whether at one extreme or the other, and an interval of two units at the favorable end of the scale will represent a difference in attitude equal to the difference represented by two units on the unfavorable end of the scale. Therefore it is possible to indicate the attitude of a group through the use of a frequency distribution, and to make meaningful comparisons of the scores of different groups, or of the same group at different times. Reliabilities of the various scales have been reported as satisfactory, at least for the measurement of groups. Directions for administering the scales given by the authors¹ indicate a reliability of .89 for the Attitude Toward the Church Scale, and .83 for the scale measuring Attitude Toward War. A later use of Forms A and B of the scale measuring attitude toward war by Cherrington and Miller resulted in a correlation of .69±.04.²

The problem of establishing some measure of validity has not been neglected. Thurstone and Chave noted that the scale "Attitude Toward the Church" differentiated between those who attended church frequently, or were church members, and those who did not attend or were not church members.³

In spite of the advantages noted above, the Thurstone method of attitude scale construction is cumbersome. It is ex-

¹L. L. Thurstone and E. J. Chave, "Instructions for Using the Attitude Scale, 'Attitude Toward the Church,'" Revised February, 1930. Chicago: The University of Chicago Press.

L. L. Thurstone and D. D. Droba, "Instructions for Using the Attitude Scale, 'Attitude Toward War,'" Chicago: The University of Chicago Press.

²Ben M. Cherrington and L. W. Miller, "Changes in Attitude as the Result of a Lecture and of Reading Similar Materials," Journal of Social Psychology, IV (November, 1933), 478-86.

³Thurstone and Chave, op. cit., p. 84.

tremely costly in time, both on the part of the many judges who must sort the statements, and those who tabulate the returns for each item. There has also been raised a question as to the validity of the scales, and the usefulness of the scaled method of scoring.

It [the method of scaled attitude statements] is based upon the assumption which is never realized in practice, namely, that acceptance of a given scale position implies acceptance of all positions less extreme and in the same direction from the neutral position. Its validity is open to doubt except when it is given to the academically sophisticated, by whom the initial judgments must almost necessarily be made.¹

Traxler questioned whether the Droba-Thurstone attitude scale actually measured what it was designed to measure as far as high school pupils are concerned.² The scales also tend to become obsolete as conditions change, making statements devised in 1935 inadequate for covering a range of attitudinal situations obtaining ten years later.³

The development of generalized attitude scales.--Another technique in attitude scale construction is illustrated in the scales developed by Remmers.⁴ These "generalized scales" attempt to meet the objections offered to the great consumption of time in scale construction, and are based on the theory that a generalized scale may be devised to measure attitude toward any institutions or objects, within inclusive categories. The statement is made that "an attitude toward any one of a large group or class of objects can validly be measured on a single scale."⁵ Construction is by means of a modified Thurstone technique, with

¹Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, op. cit., p. 906.

²Arthur E. Traxler, "Evaluation of Scores of High-School Pupils on the Droba-Thurstone Attitude-Toward-War Scale," Journal of Educational Psychology, XXVI (November, 1935), 616-22.

³A re-standardization of the "Attitude Toward War" scale in 1940-41 showed a "number of significant changes in item weight." See: Paul B. Farnsworth, "Shifts in the Values of Opinion Items," Journal of Psychology, XVI (July, 1943), 125-28.

⁴H. H. Remmers, "Studies in Attitudes," Bulletin of Purdue University. Studies in Higher Education, XXVI (December, 1934), Purdue University, Lafayette, Indiana.

⁵Ibid., p. 9.

the items arranged in regular "favorable to unfavorable" rather than in a random order.

The generalized scales have the advantage of saving time in construction, since the task of making many specific scales is unnecessary. As the statements are general, the terms and subject matter used tend to become "dated" less quickly than do the more specific scales. Reliabilities as reported by the authors are satisfactory for group measurement.

Criticism of the generalized scales has been offered, however, on the grounds that the phrasing is almost too general, so that obvious absurdities result when they are used to measure attitudes to specific practices or institutions. It has also been pointed out that reaction to the scale may be a stereotyped response to the title of the scale, rather than to the actual attributes of the institution in question.¹ Terms such as "Communism," "Fascist," "Liberal," etc. may evoke such a stereotyped response.

The Likert method of attitude measurement.—A third approach to the measurement of attitudes is represented in the instruments developed by Likert and others.² In this method several statements, phrased so as to require responses representing "judgments of value" rather than "judgments of fact" were obtained from various sources. Responses to the statements offered five possible choices: "strongly agree," "agree," "uncertain," "disagree," and "strongly disagree." It was observed that the responses of one hundred subjects "yielded a distribution resembling a normal distribution." On the basis of this evidence, as well as evidence secured from results by other investigators, it was thought "justifiable for experimental purposes" to assume that attitudes are distributed "fairly normally." The next step in the method of scoring responses was to convert into sigma values the percentage of individuals who checked a given position on a particular statement. The conversion was facilitated by the use of tables³ which gave the "average sigma values of intervals

¹Murphy, Murphy and Newcomb, op. cit., p. 903.

²Gardner Murphy and Rensis Likert, Public Opinion and the Individual, pp. 40-41. New York: Harper Brothers, 1938.

³E. L. Thorndike, An Introduction to the Theory of Mental and Social Measurement. 2d ed. New York: Teachers College, 1913. (Quoted in Murphy and Likert, op. cit., p. 41.)

represented by the stated percentages, the origin considered to be at the mean." The tables are based on the assumption that 100 per cent of the cases fall between minus three and plus three sigma. For example, 13 per cent of the group checked a particular item as "strongly approving." This per cent represents a sigma value of -1.63 , the negative sign being assigned to the end of the distribution which, in this scale, favored nationalism rather than internationalism. Similarly, the per cent of those checking each of the remaining four alternatives was translated into an equivalent sigma value.

It was found that a simpler method of scoring, substituting simple numerical values of one to five to each of the five possible responses to the statements yielded an almost perfect correlation with scores obtained using the sigma method. Since the numerical values are much easier to compute, they were substituted for the sigma values. "The ONE end was always assigned to the negative end of the sigma scale, and the FIVE end to the positive end of the scale."¹

The time saved by this simpler method of construction is apparent. The instruments are more readily adapted to different situations as older forms become obsolete in terminology. The method of scoring has been shown to give scores with reliabilities equal to or higher than the method used in the construction of the Thurstone scales.²

Objections to the Likert method of attitude measurement have, for the most part, centered around two points. First, his assumption that attitudes are normally distributed has been questioned. A second objection has been made on the grounds that the resulting instrument is not a "scale" in the true sense of the word. In an experiment with a scale constructed by the Likert method, Ferguson found that all but one of the five parts of the instrument contained statements which represented only the very favorable or very unfavorable attitudes on that continuum.³ The

¹Murphy and Likert, op. cit., p. 44.

²Rensis Likert, Sydney Roslow, and Gardner Murphy, "A Simple and Reliable Method of Scoring the Thurstone Attitude Scales," Journal of Social Psychology, V (May, 1934), 228-38.

³Leonard W. Ferguson, "A Study of the Likert Technique of Attitude Scale Construction," Journal of Social Psychology, XIII (February, 1941), 51-57.

investigator therefore concluded that the need for judges was not obviated by the method.

Statements in support of each of the methods outlined above can be found in the literature of attitude testing. Nor do unbiased factual considerations unanimously favor any one of these methods for all situations. Correlation coefficients for five of the Thurstone scales were reported by Corey to range from .35 for the lowest to .82 for the highest in the scales used.¹ The study by Ferguson, previously mentioned, raises a legitimate question concerning the worth of the Likert technique. The most serious objection to the generalized scale, the danger of stereotyped response, has already been noted.

The Selection of a Method for Constructing
an Instrument to Be Used in Measuring
Attitudes

The foregoing discussion makes it apparent that the selection of a method for the development of an attitude scale to be used in any study should be determined not only by the strengths and weakness of various techniques, but also by the particular needs to be met in a given test situation. Considerations pertinent to this study appear to be as follows:

- 1) Undue extravagance in the use of time and labor should be avoided.
- 2) Since the investigation is concerned with ninth grade pupils, the language of the attitude statements must be suited to the level of experience and understanding of the junior high school pupil.
- 3) The content of the instrument to be used in ascertaining the attitudes of the pupils toward the Negro and the German people should include the various areas explored in the tests of critical reading. It would, for example, be inconsistent to measure the attitude of the pupils toward a racial group with respect to voting rights, segregation, and intelligence, when the areas included in the accompanying reading tests were those related to employment, physical appearance, and honesty.
- 4) The attitude statements should reflect the present

¹Stephen M. Corey, "Changes in the Opinions of Female Students after One Year at a University," Journal of Social Psychology, XI (May, 1940), 341-51.

status of discussion and events in these areas. Excellent scales previously constructed to measure attitude toward the Germans refer to events and concepts connected with World War I, many of which are not related to the present attitudinal situation regarding Germans.

The above requirements point rather definitely to the necessity for a specially constructed instrument for this study, following the method employed by Likert. A summary of the arguments favoring this method follows:

- 1) It is not unnecessarily time-consuming.
- 2) The simplified method of scoring has been found to be practical.
- 3) Attitude statements may be prepared which do not evoke stereotyped responses, and which are suitable in form and content to the level of maturity and understanding of the pupils for whom the tests are intended.
- 4) Attitude statements may be prepared which sample all the areas of bias or prejudice appearing in the tests of critical reading.

Construction of the Instrument Used in This Study

The first step in the construction of the instrument was the selection of suitable statements which the pupils might accept or reject. Some of the statements were adapted from statements observed in published materials dealing with the Negroes and Germans. Other statements were adapted from an attitude questionnaire previously used. Suggestions came also through conversation with various persons. Another source of statements was the suggestions of high school pupils themselves.

Criteria for Judging the Usefulness of Statements

Several writers have suggested criteria for judging the usefulness of collected statements. Murphy and Likert have noted that statements should measure present, rather than past attitudes, and that they should be statements of desired behavior rather than statements of fact.¹ They should also be "clear,

¹Gardner Murphy and Rensis Likert, op. cit., p. 281.

concise, and straightforward." Wang has warned against "double-barreled" statements and items that are susceptible of more than one interpretation, and has indicated that short statements are more desirable than long ones.¹

Preparation of a Preliminary List of Statements

The preliminary list of statements gathered by the writer were edited with respect to the various criteria given above. An effort was also made to include in the range of statements representation of extremely favorable, extremely unfavorable and moderate expressions of feeling toward the peoples in question. The list of statements so gathered was next submitted to the members of a graduate seminar, who checked the items for clarity and direction of statement. The list was then revised in the light of these criticisms, and further checked by another group of graduate students. Again statements which did not carry the same meaning to all were revised. It was thought particularly desirable to submit the statements to a group of junior high school pupils, since such a procedure would give fairly definite assurance that the vocabulary and concepts used were within the understanding of pupils of that age. Accordingly, the revised list of seventy-two statements was then presented to the pupils of the eighth grade of the University High School. They were instructed to mark all statements which they thought to be favorable to the Negroes and to the Germans with a plus mark. All those statements which they thought were unfavorable were to be marked with a minus. Any which did not seem clear to them, or which did not appear to be definitely favorable or unfavorable were to be marked with a question mark. Some pupils also found time, as was suggested, to prepare written comments in responding to statements not clear to them.

The following are representative of statements which had been previously suggested by the pupils themselves:

7. I certainly wouldn't want to dance with a Negro at a party.

20. The Negro gets angry too fast.

¹Charles K. A. Wang, "Suggested Criteria for Writing Attitude Statements," Journal of Social Psychology, III (August, 1932), 367-73.

27. The inferiority of the Negro is just a rumor.

42. The Negro has never had an opportunity to make a contribution to civilization.

Of these statements No. 7 was clearly unfavorable, and was so marked by all but two of the pupils in the group. It was not used in the trial form, however, since a more general statement in the area of person-to-person contacts was desired. Number 20 was marked as being unfavorable by all but one pupil, and was included in the trial form as Number 24. Here it proved to have value in differentiating between the group which earned the lowest, and the highest total scores on the Survey. Number 27, as might be expected, was not thought to be clearly favorable by a fifth of the pupil group; it was therefore dropped. Number 42 evidently was confusing to the pupils, for thirteen of them thought it was a favorable statement, while eleven thought it unfavorable, and three did not know how to mark it. It was also excluded.

Statements about the German people were gathered in the same manner as were those about the Negro. A total of forty-five statements so collected were submitted to the same group of eighth grade pupils. The examples which follow will illustrate the type of statement and the procedure used in evolving a trial form of the Survey.

11. Germans are no more blood-thirsty than the people of any other nations.

27. We should treat the main body of German people as anyone else.

3. All Germans should be punished.

Number 11 was not clear as to direction to the pupil group, nor was Number 27. The last illustration, Number 3, was clearly unfavorable. It was changed in the trial form to read "We should punish the German people," and proved to be a very discriminating item. The lists of statements, as was indicated, contained forty-five statements. Nineteen of these were eliminated either because of ambiguity, lack of clarity of direction, or because one statement merely repeated the ideas expressed in another.

The Trial Form of the Survey of Opinions

A final list of twenty-six statements about the Germans

and forty-one statements about the Negro was then submitted to the same group of eighth grade pupils. The statements as they appeared in this form are given in the Appendix.

Administration of the trial form.—Marking the statements of the trial form was done according to the following directions:

A study is being made of what people think about current questions. Below you will find some statements about the Germans. If you agree with the statement, make a plus (+) mark by it; if you disagree, make a minus (-). If you feel strongly about the statement, draw a circle around the mark you have made. Thus (+) means "I strongly agree", while (-) means "I strongly disagree." If you are uncertain place a question mark near the number of the statement.

This is NOT an examination, and there are no right or wrong answers. This is merely an attempt to find out what people are thinking about these statements. Try to mark all the statements. Work quickly, but carefully.

Values of 5, 4, 3, 2, and 1 were given to each response, the highest score being given to the responses most strongly favorable to the Germans and the Negro. The scores obtained by the pupils in Grade Eight are given in Tables 5 and 6.

TABLE 5

DISTRIBUTION OF SCORES ON A TRIAL FORM OF THE
SURVEY OF OPINIONS (GERMAN SECTION) FOR 53
EIGHTH GRADE PUPILS

Scores	Frequency
109.5-119.5	1
99.5- 99.5	6
89.5- 99.5	8
79.5- 89.5	15
69.5- 79.5	13
59.5- 69.5	8
49.5- 59.5	2
Total	53
Mean	82.24
Standard Deviation	13.82

TABLE 6

DISTRIBUTION OF SCORES ON A TRIAL FORM OF THE
SURVEY OF OPINIONS (NEGRO SECTION) FOR 51
EIGHTH GRADE PUPILS

Scores	Frequency
179.5-189.5	6
169.5-179.5	10
159.5-169.5	10
149.5-159.5	6
139.5-149.5	8
129.5-139.5	5
119.5-129.5	2
109.5-119.5	2
99.5-109.5	0
89.5- 99.5	2
Total	51
Mean	155.24
Standard Deviation	11.15

A comparison was next made of the responses of the six pupils having the highest total scores (181-187) on the trial form of the Survey of Opinions (Negro Section) with the responses of the six pupils having the lowest scores (92-127). A high score in this section indicated that the pupil had responded "strongly agree" or "agree" to a large number of the propositions favorable to the Negro, and "strongly disagree" or "disagree" to a large number of propositions unfavorable to the Negro. Low scores indicated just the opposite trend. Therefore a comparison of the responses made to each of the items by these two groups served to identify the more discriminating items.

Identification of non-discriminating items.—It was discovered that items 2, 5, 16, and 20 were marked almost identically by high-scoring and low-scoring groups. These items were as follows:

2. The Negro should have the right to vote.
5. In some sections where the colored population is very heavy, the Negro should not be allowed to vote.
16. All Negroes should be called "nigger."
20. The black races were created inferior to the white.

The following items were marked very nearly the same by the high and the low scoring groups:

18. Many Negroes have a pleasing appearance.

30. The appearance of Negroes isn't especially good.

32. I believe the Negro is physically weaker than the white man.

Some explanation of the closeness of scores may be undertaken. It is possible that the "right to vote" touched upon in the second and fifth statements involves in the minds of these young people a right so fundamental that they do not associate it in any way with the operation of racial prejudice. Item 20 was probably accepted as a denial of a fact, and Item 16 was apparently too inclusive for even the more prejudiced. As for Item 32, it may be that a question of white physical superiority has forever evaporated for youngsters who are quite well acquainted with the exploits of Joe Lewis.

The section of the Survey dealing with the German people was subjected to the same type of analysis. All but Item 21, "We should kill all German soldiers," showed a considerable difference between the scores made by the high and low scoring groups. Although it was decided to retain it, undoubtedly this question should have been omitted, since it apparently deals more with the "ethics" of warfare than the specific feeling toward the Germans as people.

The retention of representative statements.--It was thought desirable to retain in the Survey of Opinions statements representative of the areas of feeling or attitude with which the selections in the test of critical reading were concerned. For example, in the critical reading test (German section), the militarism and "butchery" of war is laid at the door of the German people themselves. War guilt, brutality, blind following of leaders, and desire for conquest are touched upon in the selections read. These aspects are all included in the twenty-six propositions retained in the Survey of Opinions.

The critical reading test (Negro section) contains materials relating to the alleged physical and mental inferiority of the Negro, segregation, and various aspects of social and economic discrimination. Statements bearing on each of these aspects were included in the statements retained in the Survey of Opinions.

Administration of the Survey of Opinions

The successful use of verbal responses as a means of interpreting the true feelings of the subject depends largely upon the conditions under which the attitude scale or questionnaire is administered. The practice of omitting signatures on the scale or questionnaire is rather general. Pupils may hesitate to reveal an opinion for which they feel they may be criticized by teachers or fellow-students. Corey found little difference in scores of a signed and an unsigned questionnaire, but pointed out that in other situations the signature might have a greater effect upon the validity of the response.¹

A second means of promoting freedom of response to the questions or statements is by allaying any suspicion of the subjects through an oblique attack upon the problem. To announce intention, for example, of securing evidence of the pupils' feelings about the Negro might cause some more reticent member of the group to feel resentment at an intrusion upon his feelings. Such resentment may put him in a defensive position in which he feels he must conceal his attitude, or make such responses as he thinks will be looked upon favorably. It is generally good practice, therefore, to make more indirect statements of the problem in question, or to use a title which avoids direct reference to the attitude being studied.

Finally, and most important, the serious coöperation of the subjects must be obtained. Unless a genuine effort is put forth by those who are responding to the statements in the measuring instrument, results will be unreliable regardless of the care used in its construction.

In carrying out the work of the present investigation, conditions mentioned above were carefully met. Concealed marks were used to identify the papers of each pupil. The first page, on which names were written, was separated by the pupils from the other pages of the Survey, and handed to the writer before the completion of the Survey itself. It was found that if given a choice, some pupils preferred to leave the signed page with the

¹Stephen M. Corey, "Signed versus Unsigned Attitude Questionnaires," Journal of Educational Psychology, XVIII (February, 1937), 144-48.

other sheets, but every opportunity was offered for apparent anonymity if the pupils desired it.

Emphasis was placed first on the answers to general questions about reading of newspapers and judgments regarding current topics in the news. Such questions were designed to make the pupil feel the items had a general, rather than a specific, bearing. Naturally, once started upon the answering of the second and the following pages, the pupil discovered that all the statements had reference to only two groups of people, the Negro and the Germans. It was hoped, however, that the questions to which their attention was first called might serve to emphasize a wider interest, rather than a sharply focused attention upon specific attitudinal biases.

The fact that members of the administrative staff of the school gave a cordial reception to the investigation undoubtedly prompted a sympathetic and favorable response on the part of the pupils to taking the Survey and the Critical Reading Test. The materials were, so far as the writer was able to observe, thoughtfully read, and responses made thoughtfully and willingly. There was one exception, a Negro girl who refused to take any of the tests. Her refusal may have been prompted by an understandable emotional reaction to some of the material, or it may have been due to her very limited reading ability.

The entire Survey required about twenty-five minutes to administer. On occasions in which the group was large, the time consumed in getting materials to all the pupils made it necessary to omit one of the general questions on the first page of the Survey. Otherwise, the procedure for all groups was the same, and was followed as outlined above.

Scoring the Survey of Opinions

The pupils indicated any one of five degrees of feeling in response to each statement on the final form of the Survey of Opinions, as follows: (a) agreement with the statement, indicated by a plus mark, (b) strong agreement, indicated by + , (c) disagreement with the statement, indicated by a minus, - , (d) strong disagreement, indicated by - , and (e) uncertainty, indicated by a question mark. Numerical values of from one to five were assigned to the responses so that a strongly favorable response, whether given as strong agreement to a favorable state-

ment, or strong disagreement to an unfavorable statement, received a score of five. In like manner a favorable response received a score of four; undecided, three; unfavorable, two; and strongly unfavorable, one. Thus the highest possible score on the Negro section of the Survey was 170, obtained by multiplying the number of items, 34, by five. Such a score could be obtained by a pupil marking + for all statements favorable toward the Negro, and - to all unfavorable statements. Similarly, the lowest possible score was 34, a score which represents a "strongly unfavorable" response to all items.

The scores of the 329 pupils who completed the German section of the Survey, and those of the 250 pupils who completed the section on the Negro, are presented in the following chapter.

Evaluation of the Survey of Opinions

Evidence of Reliability

Reliability coefficients for the final forms of the Survey of Opinions were found by correlating the odd-even scores for 100 cases, selected at random. The r for the German section was found to be .7375, which becomes .849 when stepped-up by the Spearman-Brown formula. The scores for the section on the Negro yielded a coefficient of .861, which becomes .925 when the same formula is applied. These coefficients indicate a reliability sufficiently high for use with groups, which is in accord with the purposes of this investigation.

Evidence of Validity

Apparent clarity of statements.--The evidence of the validity of the Survey depends partly upon the fact that the attitude statements used were carefully checked for direction and clarity by the pupils of the age level at which they were to be used, as well as by adults. To the members of one eighth grade, at least, the statements used were clearly for or against the Negroes or the Germans.

Comparison with pupils' own judgments.--Since the purpose of the Survey was to select groups who were, in comparison with their fellows, more favorably inclined, and less favorably inclined, toward the Germans and the Negroes, it is interesting to note whether or not the members of the groups so chosen con-

sidered themselves favorable or unfavorable to the two groups in question. The final page of the Survey gave each pupil an opportunity to indicate, by encircling an appropriate statement, his own judgment of his feelings toward the Germans and the Negroes. The pupil estimates of attitude toward the Negro are presented in Table 7, while the comparison of estimates of feeling toward the Germans is shown in Table 8.

TABLE 7
COMPARISON OF SCORES ON THE SURVEY OF
OPINIONS (NEGRO SECTION), WITH PUPIL
ESTIMATES OF ATTITUDE

Pupils Included in the Unfavorable Group, Scores 92 or Below. N = 38		Pupils Included in the Favorable Group, Scores of 136 or Above. N = 40	
Number of Pupils	Self- estimate	Number of Pupils	Self- Estimate
15	Very unfavorable	10	Very favorable
13	Unfavorable	16	Favorable
4	Undecided	6	Undecided
1	Favorable	1	Unfavorable
5	No comment	7	No comment

Table 7 shows that of the pupils making the response only one person whose score on the Survey placed him in the unfavorable groups thought of himself as favorable. In like manner only one pupil grouped with the pupils favorable to the Negro on the basis of the scores obtained on the Survey, thought of himself as unfavorable. It would appear that the scores of the Survey correspond in large measure with the pupils' own estimates of their attitude toward the Negro.

Table 8 indicates a very similar situation with respect to pupil estimate of attitude. Again only one person in each group thought of himself as favorable when his score placed him in the unfavorable group; and one person whose score included him with the favorable group thought of himself as unfavorable.

TABLE 8

COMPARISON OF SCORES ON THE SURVEY OF OPINIONS
(GERMAN SECTION) WITH PUPIL ESTIMATES
OF ATTITUDE

Pupils Included in the Unfavorable Group, Scores 70 or Below. N = 49		Pupils Included in the Favorable Group, Scores of 100 or Above. N = 52	
Number of Pupils	Self- Estimate	Number of Pupils	Self- Estimate
11	Very unfavorable	14	Very favorable
17	Unfavorable	23	Favorable
9	Undecided	5	Undecided
1	Favorable	1	Unfavorable
11	No comment	9	No comment

Although this evidence is subjective in character, it does appear to indicate that the selection of groups by means of the scores on the Survey agrees strikingly with the pupils' own judgments of their feelings.

Comparison of scores (Negro Section) with teacher and pupil judgment, and with previously written pupil comments.--It was possible to compare the scores of a group of tenth grade pupils with their own estimate of their attitude toward the Negro, and their teacher's estimate of their attitude. These pupils had previously concluded a study of the problems of minority groups, and had written original comments on the problem of the Negro. These comments were kept on file by the teacher, and were made available to the writer.

The data given in Table 9 show that the group as a whole were favorably inclined toward the Negro, as indicated by the scores on the Survey, their own estimate, and the estimates of their teacher.

TABLE 9

COMPARISON OF SCORES OF TENTH GRADE PUPILS ON THE SURVEY OF
OPINIONS (NEGRO SECTION) WITH PUPIL ESTIMATES OF TOLERANCE,
AND WITH TEACHER JUDGMENT OF TOLERANCE

Pupil No.	Score	Rank*	Pupil Estimate	Teacher Estimate
1	132	M	None	None
2	131	M	Tolerant	Very tolerant
3	112	L	Tolerant	Tolerant
4	106	L	Intolerant	Average tolerance
5	134	M	Tolerant	Opinionated
6	143	H	Very tolerant	Visitor
7	144	H	Very tolerant	Very tolerant
8	160	H	Tolerant	Very tolerant
9	118	L	Tolerant	From South--In- tolerant toward So. Negro
10	132	M	Very tolerant	Very tolerant
11	132	M	Tolerant	Tolerant
12	124	M	Tolerant	Intolerant
13	115	L	Undecided	Toward tolerance
14	126	M	Tolerant	Tolerant
15	137	M	Undecided	Undecided
16	124	M	Tolerant	Tolerant
17	124	M	Tolerant	Changed to tol- erance
18	122	M	Tolerant	Tolerant
19	138	M	Tolerant	Tolerant
20	128	M	Tolerant	Tolerant
21	128	M	Tolerant	Mature, tolerant
22	164	H	Very tolerant	Tolerant

*Rank of "L" indicates a score in the lowest one-fifth of the group, "M" a score in the middle three-fifths, "H" a score in the highest one-fifth.

Scores made by persons in the lowest fifth of the group may be compared with their own previous statements, and with teacher comments. Pupil 3 expressed an opinion that his attitude was one of tolerance, as did his teacher. An investigation of the material written by the pupil in the course of his work in the social science class, brings to light some evidence that he is willing to treat the race problem with generosity and forbearance so long as it is kept at a distance. The following quotation from his paper will illustrate the point:

As you read this booklet you will begin to realize what it would mean to you personally to be forced to go through so many hardships and humiliations enforced upon you by those who are different only in color.

And what is the solution to this problem which we must now finally face? In my opinion, there is none. The only possible solution is to let the black man develop his own culture. This will be impossible for him to do in any country where white men predominate, therefore, there must be some country, some place that will welcome these people.

It would seem that this pupil has not gone so far as to envision cooperation with the Negro; the hope rather is that "some place" will offer him a haven.

Pupil 4, who made the lowest score of the group, was described by the teacher as being of average tolerance. The pupil's own statement was that his feeling toward the Negro was unfavorable. An examination of written work done by the pupil leads to the conclusion that there is some justification for his low score.

I completely disagree with this Proposal to establish a mixed army unit of blacks and whites. I think that the negro soldiers should be . . . segregated. I should think that they would want to be with themselves and not want to mingle with the whites, I know that our boys certainly don't want to mingle with them. . . .

Further explanation of the fact that this pupil's feelings were better detected through written comment and the Survey, is found in the teacher's description of the young person as "a shy, quiet, child who seldom voices opinions in class." Apparently, silence did not come from agreement with the prevailing trend of thought in the class.

Pupil 9 had expressed verbally, on occasion, dislike for the Southern Negro, while professing some admiration for the Northern Negro. Pupil 13, self-described as "undecided," was felt by his teacher to be "inclined toward a tolerant attitude."

Pupils whose scores were in the highest one-fifth of the

group thought of themselves as "very tolerant" with one exception, pupil 8, who thought of himself as "tolerant." A quotation from this pupil's written work indicates his unusually mature and objective viewpoint:

The problem as I see it is an economic problem of rich and poor people's antagonism against each other, which develops into a race conflict due to the fact that a majority of negroes are poorer than a majority of whites.

Pupil 22, whose score of 164 out of a possible 170 points was the highest in the entire group, had previously written on the race problem as follows:

The Negro has been in an actual pityfull state since his entrance into this "democratic" nation of ours. [Here follows a description of the evils of slavery.]

Many people think that they have a lower capacity of knowledge, and are ignorant in other ways have to restate their objections. It has been proved that northern Negroes have a higher I.Q. than southern whites.

The greater number of the "middle" group, whose scores fall in the middle three-fifths of the scores, were judged by themselves and by their instructor as "favorable" to the Negro. Exceptions are pupils 15, 10, and 12. Unfortunately no written records were available for these pupils which might have explained the discrepancy between their scores and other judgments of their attitude.

Summary

Reliability coefficients of .85 and .95 for the sections of the Survey of Opinions concerned with the German and Negro, respectively, indicate that these sections have a reliability suitable for the purpose of this study. The scores on both sections have been shown to be in agreement, with minor exceptions, with the judgment of the pupils as to their own attitudes. The independent judgment of a social studies teacher was found to agree with the characteristics of the tenth grade group with respect to their attitude toward the Negro, as was indicated by their scores on the Survey. In the light of this evidence, although it is admittedly incomplete, it would appear that the Survey of Opinions may be used with reasonable accuracy to select those pupils in a group who are more favorable and who are less favorable, in their attitudes toward the Germans and the Negro, than the other pupils in their group.

CHAPTER V

PRESENTATION OF THE DATA

This chapter presents the data secured through the use of the tests described in Chapters II, III, and IV. The discussion will be introduced with a description of the characteristics of the pupil groups tested, including data concerning their school classification, environment, chronological ages, mental ages, reading ability, and attitudes toward the Negro and the Germans. The selection of pupil groups according to attitude will be described, and a comparison will then be made of the critical reading ability of these groups as measured by scores on the Critical Reading Test. Finally, the significance of the difference in scores will be considered.

Characteristics of the Pupil Group

The subjects used in the experiment consisted of a total of 625 different pupils in the ninth grade civics classes and in the study halls of the Thornton Township High School, Harvey, Illinois. All pupils were at the ninth grade level, excepting a very few who were in the tenth grade. The tests used were given to the pupils in April and May, 1944.

Complete data were secured for 375 pupils. Twenty-four were eliminated from the group, however, because of their very poor achievement on the general reading test.

The Pupil Environment

The pupils used in this study came largely from the predominately industrial community of Harvey; however, some children from nearby truck-farming and onion-growing centers were also included. The greatest number of pupils came from homes of moderate means. Many fathers or mothers were workers in nearby industrial plants. The professions were represented by a few parents; another small group were owners or managers of industries or business concerns. Some families had lived for a number of years in

their present community; others were recent migrants from other sections in search of wartime industrial wages. Quite frequently the pupils themselves, particularly the boys, worked during after school hours in plants which were at that time eager for part-time workers.

Nationalities and Races Represented

A wide range of nationalities was represented in the school population, including Dutch, Scandinavian, Polish, German, Scotch, English, Hungarian and Russian. While objective data were not available, members of the school staff were of the opinion that children of Polish descent were the most numerous.

Of special interest, in view of the nature of the fact that some of the materials of the Critical Reading Test referred directly to the race problem, was the presence of a number of Negro pupils. A few Negro boys and girls were present in many, although not all, of the classes. Members of the staff of the school assured the writer that no instances of friction between the two racial groups had been observed among the students.

Level of Maturity Attained by the Pupils

Chronological ages.---The pupils were rather widely distributed with respect to chronological age as shown in Table 10. The ages ranged from 162 months to 205 months, with a mean age of 179.63 months.

Mental ages.---The mental ages of the groups were more widely distributed, varying from a mental age of 129 months to a mental age of 229 months. The distribution of mental ages derived from the total mental factors scores on the California Short Form Test of Mental Maturity is shown in Table 11. These data indicate more extreme variation in mental age than in chronological age. However, the mean mental age is slightly higher than the mean chronological age. The youngest pupil in the group chronologically is nearly four years younger than the oldest; the youngest in mental age is less mature than the oldest in mental age by nearly nine years.

TABLE 10

DISTRIBUTION OF CHRONOLOGICAL AGES
OF 361 NINTH GRADE PUPILS

Age in Months	Frequency
205	2
202	3
199	1
196	10
193	7
190	14
187	21
184	33
181	52
178	69
175	61
172	49
169	18
166	13
163	6
160	2
Total	351
Mean	179.63
Standard Deviation	7.79

TABLE 11

DISTRIBUTION OF MENTAL AGES OF 351 NINTH
GRADE PUPILS AS DETERMINED BY TOTAL MENTAL
FACTORS SCORES ON THE CALIFORNIA SHORT
FORM TEST OF MENTAL MATURITY

Age in Months	Frequency
220	9
210	22
200	42
190	59
180	65
170	56
160	57
150	25
140	12
130	3
120	1
Total	351
Mean	182.53
Standard Deviation	19.74

Reading Ability of the Pupil Group

The reading ability of this group, as measured by the Cooperative English Test: Reading Cl, was somewhat lower than the average for ninth grade. The distribution of the scores on the Cooperative Reading Test is shown in Table 12. The total scores

TABLE 12

DISTRIBUTION OF SCORES ON THE COOPERATIVE
READING TEST FOR THE ENTIRE GROUP TESTED
IN NINTH GRADE

Scores	Frequency
60 - 66	1
54 - 59	16
48 - 53	43
42 - 47	65
36 - 41	79
30 - 35	72
24 - 29	51
18 - 23	32
12 - 17	16
Total	375
Mean	36.41
Standard Deviation	10.60

varied from 14 to 65, with a mean score of 36.41. These scores were obtained from the records of the school, the test having been given to the pupils of the ninth grade at the end of the first semester, about four months previous to the giving of the Critical Reading Test. The published norm for the Cooperative Test at the end of Grade Eight is 39.2 at the 50th percentile.

It was felt wise to eliminate from the study all those cases in which reading ability as shown by the Cooperative Test fell so far below the norm that reading was manifestly a slow and painful process. Such cases would, in all probability, be so involved in the sheer labor of deciphering the literal meaning of the passages that any attempt to measure the effects of attitudinal reactions would be futile. Accordingly the twenty-four cases falling below a score of twenty-one on the Cooperative Test were eliminated from the study. A total score of twenty-one

marks a point two standard deviations below the mean for Grade VIII, certainly an indication of limited ability.

The Attitudes of the Pupils

Attitude toward the Negro.--The scores of the 250 pupils who completed the Survey of Opinions (Negro Section) are given in Table 13. While there is a wide range in these scores, the mean

TABLE 13

DISTRIBUTION OF SCORES ON THE SURVEY OF OPINIONS (NEGRO SECTION) FOR 250 NINTH GRADE PUPILS

Scores	Frequency
159.5-169.5	1
149.5-159.5	4
139.5-149.5	14
129.5-139.5	33
119.5-129.5	49
109.5-119.5	45
99.5-109.5	45
89.5- 99.5	30
79.5- 89.5	17
69.5- 79.5	8
59.5- 69.5	2
49.5- 59.5	1
39.5- 49.5	0
29.5- 39.5	1
Total	250
Mean	113.14
Standard Deviation	19.87

of the distribution, 113.14, suggests that the group in general held a favorable rather than unfavorable attitude toward the Negro, since an average response of "uncertain" to the propositions of the Survey would yield a mean score of 102. A standard deviation of 19.87 indicates considerable homogeneity with respect to attitude toward the Negro.

Attitude toward the Germans.--The distribution of the scores of the 329 pupils who completed the Survey of Opinions (German Section) is shown in Table 14. Again a wide range of

TABLE 14

DISTRIBUTION OF SCORES ON THE SURVEY OF OPINIONS
(GERMAN SECTION) FOR 329 NINTH GRADE PUPILS

Scores	Frequency
119.5-129.5	1
109.5-119.5	11
99.5-109.5	40
89.5- 99.5	74
79.5- 89.5	93
69.5- 79.5	68
59.5- 69.5	29
49.5- 59.5	7
39.5- 49.5	5
29.5- 39.5	0
19.5- 29.5	1
Total	329
Mean	83.77
Standard Deviation	17.10

scores was obtained^a, and a mean slightly above the theoretical mean score of 78, which would have indicated an average response of "uncertain."

It should be observed that the scores on the Survey of Opinions (Negro section) are not directly comparable to the scores on the German section, for the reason that the former includes thirty-four items, whereas the latter includes twenty-six items.

The Critical Reading Ability of the Pupils

The distribution of scores for the pupils completing the Critical Reading Test (Negro Section) is shown in Table 15, while the scores for the group completing the German Section are given in Table 16. Both of the tables show a wide range of scores on the two sections of the test of critical reading. It should be borne in mind that the scores on the Negro section are not comparable to those of the German section, for the reason that the number of items differs.

TABLE 15

DISTRIBUTION OF SCORES ON THE CRITICAL READING
TEST (NEGRO SECTION) FOR 250 NINTH GRADE PUPILS

Scores	Frequency
28-29	2
26-27	9
24-25	16
22-23	27
20-21	35
18-19	30
16-17	27
14-15	36
12-13	30
10-11	19
8- 9	13
6- 7	6
Total	250
Mean	17.02
Standard Deviation	5.10

TABLE 16

DISTRIBUTION OF SCORES ON THE TEST OF CRITICAL
READING (GERMAN SECTION) FOR 329 NINTH
GRADE PUPILS

Scores	Frequency
26-27	3
24-25	7
22-23	37
20-21	39
18-19	38
16-17	34
14-15	49
12-13	45
10-11	43
8- 9	20
6- 7	11
4- 5	3
Total	329
Mean	15.57
Standard Deviation	4.87

Summary

The data thus far presented concerning the subjects in the experiment indicate that a fairly representative high school group was used. The varied nationalities represented by these pupils, the variety of economic levels and occupations, and the number of Negro pupils included are more or less typical of an urban public high school population. In one respect, however, this group varied from the normal. The evidence regarding their reading ability indicates that they were somewhat below what would be expected of a ninth grade group. The elimination of the poorest readers tended to minimize this discrepancy.

Selection of Pupil Groups with Respect to Attitude toward the Negro

The purpose of giving the Survey of Opinions was to discover those pupils in the entire group who were most favorable and least favorable toward the Negro and the Germans. Since the scoring of the Survey was arranged so that the high scores in each case represented the more favorable attitude, the "favorable" pupil group was selected from those having the highest scores on the Survey. Similarly, the "unfavorable" group was selected from those having the lowest scores.

The basis for determining the number of pupils to be included in each group was somewhat arbitrary. A middle, or "indifferent" group was first selected. This group was composed of pupils whose scores lay approximately one standard deviation each side of the mean. As was shown in Table 13, the mean of this distribution is 113.14; the standard deviation, 19.37. The upper limit, therefore, of the middle, or "indifferent," group would then be a score of 132, and the lower limit, 93. In selecting the groups, however, these exact limits were not maintained, for the reason that a slight variation was found to make the number of subjects in the groups at the two extremes more nearly equal.

It was decided to include in the middle group all pupils having scores of 93 to 135. The 172 pupils in this group had scores which indicated neither strong aversions nor strongly favorable inclinations toward the Negro.

The pupils having scores ranging from 136 to 150 were at the upper extreme of the distribution. Such scores indicated

a larger number of favorable responses than were made by the other pupils, and served to differentiate the more favorably inclined from those more or less indifferent to the Negro.

The "unfavorable" group was composed of the thirty-eight pupils whose scores were 92 or below. Such scores indicated the largest number of unfavorable reactions to the propositions given on the Survey and identified these pupils as those most unfavorably inclined toward the Negro.

Selection of Pupil Groups with Respect to Attitude toward the Germans

The responses made by pupils to the Survey of Opinions (German section) were scored in the same way as were those in the section on attitude toward the Negro. The distribution of scores in this section was presented in Table 14. The range of scores is from 26 to 123, and the mean score is 83.77. The standard deviation is 17.10.

The middle, or "indifferent" group in this distribution was again defined as the scores lying approximately within one standard deviation on each side of the mean. In this manner the upper limit of the group was defined as a score of 100, and the lower limit as a score of 66. Again these limits were adjusted slightly to equalize the numbers in the extreme groups. The upper limit for the middle group was retained at 100, and the lower limit included scores of 71. Two hundred twenty-eight pupils were included in this group.

The "unfavorable" group included those pupils at the lower extreme whose scores were 70 or below, and the "favorable" group included those with scores of 100 or above. Forty-nine pupils were included in the former group, and fifty-two pupils in the latter.

The Comparison of Pupil Groups: Negro Section

Purpose of the Comparison

As previously explained, the purpose of comparing the favorable and unfavorable pupil groups was to discover whether the difference in attitudes held by these groups bore a significant relationship to their scores on the Critical Reading Test. For example, are the scores made by the pupils who were most favorable

to the Negro higher than those who were indifferent to the Negro? Are the scores of the group who were unfavorable to the Negro lower than those of the group who were indifferent to the Negro? In making these comparisons it was assumed that the reading performance of the pupils whose scores place them in the "indifferent" group would not be affected by their attitude.

Observed Differences in Groups (Negro Section)

Differences in mean scores of groups (Negro section) for unfavorable and indifferent groups.--Mean scores of pupils grouped according to attitude toward the Negro for the Critical Reading Test, the Cooperative Reading Test, and for Language Mental Age, as measured by the California Short Form Test of Mental Maturity are shown in Table 17. It will be noted that while the

TABLE 17

MEAN SCORES ON THE CRITICAL READING TEST (NEGRO SECTION), THE COOPERATIVE READING TEST, AND LANGUAGE MENTAL AGE AS MEASURED BY THE CALIFORNIA SHORT FORM TEST OF MENTAL MATURITY, OF PUPILS GROUPED ACCORDING TO ATTITUDE TOWARD THE NEGRO

Tests	Means of Groups*			
	Favorable N = 40	Unfavorable N = 38	Indifferent N = 172	Total N = 250
Critical reading test.....	17.02	14.89	17.49	17.02
Cooperative reading test..	38.50	37.87	38.36	38.31
Language mental age.....	188.0	185.55	187.90	187.58

*A test for the significance of the differences in means is made later. The critical ratios, therefore, are not given.

mean score on the Critical Reading Test for the group favorable to the Negro differs very little from the mean of the group indifferent to the Negro, the unfavorable group has a mean score appreciably lower. This lower mean Critical Reading Score is not associated with a significantly lower score on the Cooperative

Reading Test, a fact which may indicate that some factor other than general reading ability was operating to cause this difference.

Differences in intercorrelations.—Intercorrelations of scores on parts of the test variables for the three pupil groups are shown in Table 18. Again the unfavorable group is not in

TABLE 18

INTERCORRELATIONS OF SCORES ON THE CRITICAL READING TEST (NEGRO SECTION), COOPERATIVE READING TEST, AND LANGUAGE MENTAL AGE OF PUPILS GROUPED ACCORDING TO ATTITUDE TOWARD THE NEGRO

Pairs of Variables	Pupil Groups							
	Favorable N = 40		Indifferent N = 172		Unfavorable N = 38		Total N = 250	
	Correlation	Standard Error	Correlation	Standard Error	Correlation	Standard Error	Correlation	Standard Error
Critical Reading Test and Cooperative Reading Test..	.752	.069	.622	.047	.643	.095	.642	.037
Critical Reading Test and Language Mental Age.....	.694	.082	.704	.039	.393	.137	.643	.037
Cooperative Reading Test and Language Mental Age....	.766	.057	.692	.040	.716	.079	.712	.031

line with the others. Most apparent is the difference in the correlation of scores on the Critical Reading Test with Language Mental Age. For the indifferent group the correlation of .70 is in harmony with the correlations between language mental age and reading test scores which have been reported elsewhere.¹ The un-

¹Ruth Strang, "Variability in Reading Test Scores on a

favorable group, however, has a correlation of .39. This correlation appears particularly significant when compared with the correlation between the scores on the Cooperative Reading Test and language mental age for the unfavorable group, which is .712. The inference was made that these differences in relationship might be due to the nature of the biased reactions to the Critical Reading Test.

The Consideration of Variables Other than Attitude

In order to determine with reasonable accuracy, however, the influence of attitude on reading scores, it was thought necessary to take into account other variables having a possible effect on the reading performance of these groups. The variables considered were chronological age, Language Mental Age, as derived from the language section of the California Short Form Test of Mental Maturity, and reading achievement, as shown by scores on the Cooperative Reading Test. The manner in which these variables were taken into account will next be described.

Chronological ages.--Chronological ages of the pupils are

TABLE 19

DISTRIBUTION OF THE CHRONOLOGICAL AGES OF 250 PUPILS
GROUPED ACCORDING TO ATTITUDE TOWARD THE NEGRO

Scores	Unfavorable N = 38	Favorable N = 40	Indifferent N = 172	Total N = 250
199.5-204.5.....	2	0	1	3
194.5-199.5.....	4	1	4	9
189.5-195.5.....	1	3	9	13
184.5-189.5.....	3	3	20	26
179.5-184.5.....	6	10	44	60
174.5-179.5.....	11	8	51	70
169.5-174.5.....	8	13	31	52
154.5-169.5.....	1	2	8	11
159.5-164.5.....	2	0	4	6
Total.....	38	40	172	250
Mean.....	178.50	178.75	179.23	179.20
S.D.	10.08	7.61	7.25	7.76

Given Scale of Intelligence Test Scores," Journal of Educational Research, XXXIII (February, 1945), 440-46.

shown in Table 19 for pupils grouped according to attitude toward the Negro. The difference in ages which exists between the groups appears to be very slight. Correlations between chronological ages and two other measures used in the group comparisons, namely, Critical Reading Test Scores, and Cooperative Reading Test scores, were computed for two pupil groups. The correlations, as shown in Table 20, are so small as to be of little significance. The highest correlation was .123. As might have been anticipated, Language Mental Age correlated negatively with chronological age. The older pupils in the ninth grade were, in general, retarded pupils whose facility in verbal manipulation was not equal to that of their younger classmates.

TABLE 20

CORRELATIONS OF CHRONOLOGICAL AGES WITH SCORES ON THE COOPERATIVE READING TEST, THE CRITICAL READING TEST, AND LANGUAGE MENTAL AGE, OF PUPILS GROUPED ACCORDING TO ATTITUDE TOWARD THE NEGRO

Variables	Indifferent Group N = 172		Favorable Group N = 40	
	Correlation	Standard Error	Correlation	Standard Error
Critical Reading Test.....	.123	.075	.092	.157
Cooperative Reading Test..	.019	.075	.005	.158
Language Mental Age.....	-.169	.074	-.162	.154

In view of the very slight relationship found between chronological ages of the pupils and their scores on the tests used, it was decided to omit consideration of chronological ages in subsequent computations.

Mental ages.--Inspection of Table 17 reveals a lower mean mental age for the group unfavorable, and a slightly higher mean mental age for the favorable group. The question naturally arises, do the lowered scores on the Critical Reading test for the group unfavorable to the Negro reflect the lesser capacities of the group rather than the influence of an unfavorable attitude? Similarly, it might be true that the higher mean Critical Reading

Test score obtained by the favorable group may have been most strongly influenced by a somewhat higher mental age.

Reading ability.—Furthermore, Table 17 reveals a slightly higher mean score on the Cooperative Reading Test for the group favorable to the Negro than the means of other groups, whereas the mean score of the unfavorable group is slightly lower than the mean scores of other groups. These differences are slight, but may be large enough to account for some of the deficiencies in critical reading ability reflected in the lowered scores on the Critical Reading Test.

Method of Testing for the Significance of Observed Differences

One way of taking these differences in means and inter-correlations into account might be to match individual pupils on the basis of mental age and scores on the Cooperative Reading Test. Such a procedure would occasion the loss of a great number of cases, since the matched pair of pupils would need to differ in attitude, if the effect of attitude on critical reading were to be determined. A technique was therefore chosen by means of which the significance of differences between groups might be tested, taking other concomitant variables into account. For this purpose a generalized formula for testing the significance of experimental treatments developed by Shen was used.¹ The formula is as follows:

$$t^2 = \frac{N_1 + N_2 - 2 - k}{1 - r^2} \left\{ \frac{(\bar{x}_1 - \bar{x}_2)^2 (1 - R^2)}{\left(\frac{1}{N_1} + \frac{1}{N_2}\right) [\sum (x_1 - \bar{x})^2 + \sum (x_2 - \bar{x}_2)^2]} - (R^2 - r^2) \right\}$$

Where R and r are multiple correlations as given below:

- R Correlation for the two groups combined.
- r Correlation for the two groups combined without taking into consideration the difference in means.

N_1 and N_2 are the number of cases in two groups to be compared, and $\bar{x}_1$ and $\bar{x}_2$ the means of the respective groups. The number of concomitant variables to be considered is represented

¹Eugene Shen, "A Generalized Formula for Testing the Significance of Experimental Treatments," Harvard Educational Review, X (January, 1940), 70-74.

by k.

For convenience in computation the notation of the formula given above was changed slightly to express the conditions obtaining in this study. Since the expression $(x_1 - x_2)^2$ is equal to $N_1 \sigma_{ya}^2$ where σ_{ya} is the standard deviation of the first group to be compared, this expression is substituted so that the formula, as used, reads as follows:

$$t^2 = \frac{N_a + N_b - 2 - k}{1 - r^2} \left\{ \frac{(\bar{Y}_a - \bar{Y}_b)^2 (1 - R^2)}{\left(\frac{1}{N_a} + \frac{1}{N_b} \right) [N_a \sigma_{ya}^2 + N_b \sigma_{yb}^2]} - (R^2 - r^2) \right\}$$

Here the subscript "a" applies to the group indifferent to the Negro; "b" to the group unfavorable to the Negro. $\bar{Y}_a$ and $\bar{Y}_b$ denote the respective means of these two groups on the test of critical reading. Substituting the appropriate values for these groups we have:

$$t^2 = \frac{172 + 38 - 2 - 2}{1 - .4674} \left\{ \frac{(17.49 - 14.89)^2 (1 - .4593) - .4593 - .4674}{\left(\frac{1}{172} + \frac{1}{38} \right) [4070.98 + 965.58]} \right\}$$

Results of test for significance of differences for the group unfavorable to the Negro.—The result of solving the above for t gives a value of 3.45, a difference which is significant at the one per cent level. It is reasonable to conclude, therefore, that the lowered scores of the group unfavorable to the Negro are most closely associated with the experimental variable, the unfavorable attitude. The differences have been demonstrated to be due neither to a chance variation, nor to the inferior mental or reading abilities represented in the pupil group.

Observed Differences in Groups Favorable to the Negro and Indifferent to the Negro

Differences in means and intercorrelations.—As was shown in Table 17 the difference in mean score on the Critical Reading Test for the group favorable to the Negro and the group indifferent to the Negro was very slight. Table 18 indicated also no striking variation in the intercorrelations of scores for the

favorable group.

The Test for the Significance of Differences
in Scores for the Group Favorable
to the Negro

The test for significance of difference in scores was carried out for the favorable group in the same manner as for the unfavorable group. In this comparison the means and N's for the favorable group were substituted in the formula as had been done for the unfavorable group. The values substituted for the indifferent group remained the same. The substitutions in the formula were as follows:

$$t^2 = \frac{172+40-2-2}{1 - .5390} \left\{ \frac{(17.49-17.02)^2(1-.5374) - (.5374-.5390)}{\left(\frac{1}{172} + \frac{1}{40}\right)[172 \times 4.87^2 + 40 \times 5.52^2]} \right\}$$

Results.---The value of t was found to be 1.00, a difference which is not statistically significant.

The Comparison of Pupil Groups: German Section

The questions to be answered with respect to the critical reading abilities of the pupil groups chosen according to attitude toward the Germans were the same as those proposed for the pupils of favorable and unfavorable attitudes toward the Negro. To test whether an unfavorable or a favorable attitude toward the Germans is associated with higher or lower scores on the Critical Reading Test, the scores of the favorable and unfavorable groups were compared with the scores of the indifferent group.

Observed Differences in Groups

Differences in means.---Mean scores on the Critical Reading Test, Cooperative Reading Test, and mean Language Mental Age for the groups favorable, indifferent and unfavorable to the Germans are shown in Table 21. It will be noted that the mean score for the favorable group is slightly higher than that for the indifferent group, while the mean score of the unfavorable group is slightly lower than the mean of the indifferent group.

TABLE 21

MEAN SCORES ON THE CRITICAL READING TEST (GERMAN SECTION)
COOPERATIVE READING TEST, AND LANGUAGE MENTAL AGE OF
PUPILS GROUPED ACCORDING TO ATTITUDE TOWARD
THE GERMANS

Tests	Means of Groups*			
	Favorable N = 52	Unfavorable N = 49	Indifferent N = 228	N = 329
Critical Reading Test.....	16.29	14.94	15.54	15.57
Cooperative Reading Test..	39.31	36.34	37.70	37.75
Language Mental Age.....	189.50	180.22	185.46	185.52

*Critical ratios are not given as a test for the significance of these differences will be made later.

Differences in intercorrelations.—Intercorrelations for the three variables considered are given in Table 22. As shown

TABLE 22

INTERCORRELATIONS OF SCORES ON THE CRITICAL READING TEST
(GERMAN SECTION) COOPERATIVE READING TEST AND LANGUAGE
MENTAL AGE, OF PUPILS GROUPED ACCORDING TO ATTITUDE
TOWARD THE GERMANS

Pairs of Variables	Pupil Groups					
	Favorable N = 52		Indifferent N = 228		Unfavorable N = 49	
	r	S.E.	r	S.E.	r	S.E.
Critical Reading Test and Cooperative Read- ing Test.....	.6477	.080	.6857	.053	.5040	.107
Critical Reading Test and Language Mental Age.....	.7273	.065	.6457	.058	.6230	.087
Cooperative Reading Test and Language Mental Age.....	.7172	.067	.7223	.048	.6693	.080

in this table, the relationship of the Critical Reading Test and Mental Age differs noticeably for both the favorable and unfavorable groups.

The differences noted, however, may be no more than chance differences. Accordingly, the generalized formula used in the previous section served as a means of testing the significance of such differences as appeared in the means and intercorrelations.

Test for Significance of Differences

Test of significance for the group favorable to the Germans.--The test for significance was first applied to the difference between the scores of the favorable and the indifferent groups. The values for the means, N's and correlations of groups were substituted in the formula as follows:

$$t^2 = \frac{228+52-2-2}{1 - .5218} \left\{ \frac{(15.54-16.29)^2 (1-.5235) - (.5235-.5218)}{\left(\frac{1}{228} + \frac{1}{52}\right) [5402.72+1078.68]} \right\}$$

$t = .24$, a difference which is not statistically significant.

Test of significance for the group unfavorable to the Germans.--The difference in the means for the groups was extremely small, and it was not anticipated that the difference would prove to be significant. However, the computations were completed, as for the previous group comparisons. Values were substituted in the formula as follows:

$$t^2 = \frac{228+49-2-2}{1 - .4932} \left\{ \frac{(15.54 - 15.44) (1 - .4943) - .4943 -.4932}{\left(\frac{1}{228} + \frac{1}{49}\right) [228 \times 4.87^2 + 49 \times 5.09^2]} \right\}$$

$t = .768$, a difference having no statistical significance.

Further Analysis of the Data

Additional information concerning the relationship of pupil attitudes to critical reading ability was sought through further analysis of the data. It seemed interesting to know, for example, whether or not the best and the poorest readers as measured by the test of critical reading differ significantly in attitude toward the Germans and the Negro. A summary of the re-

sults of such an analysis follows.

Comparisons of Pupils Having Highest and Lowest Critical Reading Test Scores

Do good and poor readers differ in attitude toward the Germans?--The upper and lower extremes of the distribution, including all scores on the Critical Reading Test (German section) above and below one standard deviation each side of the mean were considered to be the "best" and "poorest" readers. The best readers, having scores of 21 to 26, were found to have a mean score on the German section of the opinion Survey of 84.81. The mean score of the entire group on this section of the Survey of Opinions was 83.77. It is apparent that this difference is a negligible one.

The poorest readers with scores on the Critical Reading Test (German section) of 10 or below, were found to have a mean score on the Survey of Opinions of 84.67. Again, these differences are too small to be significant.

Do good and poor readers differ in attitude toward the Negro?--The "best" readers on the Critical Reading Test (Negro section) were considered to be those having score above one standard deviation above the mean. The forty-six subjects having

TABLE 23

DISTRIBUTION OF SCORES ON THE SURVEY OF OPINIONS (NEGRO SECTION) FOR THE 46 PUPILS HAVING THE HIGHEST SCORES ON THE CRITICAL READING TEST

Scores	Frequency
149.5-159.5	1
139.5-149.5	3
129.5-139.5	5
119.5-129.5	12
109.5-119.5	9
99.5-109.5	10
89.5- 99.5	3
79.5- 89.5	2
69.5- 79.5	1
Total	46
Mean	116.46
Standard Deviation . .	16.762

scores in this category were found to have scores on the Negro section of the Survey of Opinions as shown in Table 23. The mean score of this group is 3.23 higher than the mean of the entire pupil group taking the Survey of Opinions.

The "poorest" readers were the pupils whose scores were 12 or below on the Negro section of the Critical Reading Test. The scores of these pupils on the Negro section of the Survey of Opinions are shown in Table 24. The mean score of this group on the Survey of Opinions was found to be 109.77 as compared with a mean of 113.14 for the entire group taking the Survey. Inspection of these scores would indicate that the poorest readers are, on the whole, less favorable in attitude toward the Negro than are the best readers. However, the critical ratio of the difference between the means of the best and poorest readers is only 1.58. Such a difference is, therefore, not a significant one.

TABLE 24

DISTRIBUTION OF SCORES ON THE SURVEY OF
OPINIONS (NEGRO SECTION) FOR THE 52
PUPILS HAVING THE LOWEST SCORES ON
THE CRITICAL READING TEST

Scores	Frequency
159.5-169.5	1
149.5-159.5	2
139.5-149.5	3
129.5-139.5	5
119.5-129.5	9
109.5-119.5	5
99.5-109.5	11
89.5- 99.5	5
79.5- 89.5	7
69.5- 79.5	2
59.5- 69.5	1
49.5- 59.5	0
39.5- 49.5	0
29.5- 39.5	1
Total	52
Mean	109.77
Standard Deviation . . .	24.756

Although the means of the scores on the Survey of Opinions for these two groups of readers are not significantly different, inspection of Tables 23 and 24 indicates a marked dissimilarity in the distribution and range of scores. The standard error of the difference in the standard deviations¹ of these distributions is 2.99, giving a critical ratio of 2.67, a difference significant at the one per cent level.

It may therefore be assumed that the poorest readers do differ from the best readers in the range of their attitudes. In this group of poor readers were found not only those who were poor readers because of low general reading ability, but also poor readers because their unfavorable attitudes had affected the quality of reading done. Therefore a distribution of scores not characteristic of the other groups supports the hypothesis that factors other than general reading ability affect the reading of this group.

Summary

The application of a test for the significance of differences observed between the mean scores on the test of critical reading for the pupil groups, indicated significant differences only in the case of the group unfavorable to the Negro. A comparison of the attitudes held by the best and the poorest readers indicated a marked difference in the distribution and range of attitude scores for the poorest readers of the Negro section of the test of critical reading. On the basis of these results it would appear that for this pupil group, and under the conditions obtaining in this experiment, an unfavorable attitude may interfere with the quality of reading done.

¹

$$S. E. \sigma = \frac{\sigma}{\sqrt{2N}}$$

CHAPTER VI

CONCLUSIONS AND IMPLICATIONS

The purpose of this chapter is to present such conclusions as seem to be warranted by the data secured, and to interpret the findings with reference to the questions proposed for investigation. Implications of the results of this study for instruction in reading will be suggested, and problems in need of additional research will be proposed.

Conclusions Based on the Data Obtained

As was stated at the outset, the purpose of this study was to discover what relationship, if any, exists between a pupil's attitude toward a topic and his ability to read critically about that topic. Two questions were proposed for investigation as follows: (1) Will pupils who have the least favorable attitudes toward a topic read materials about that topic with more accuracy and discrimination than do other pupils in their group? and (2) Will pupils who have the least favorable attitudes toward a topic read with less accuracy and discrimination materials about that topic than do the other pupils in their group?

Evidence was secured concerning the attitudes held by a group of ninth grade pupils toward Negroes, and toward Germans by means of an instrument particularly constructed for use in this study. Information about the mental ages, chronological ages, and the general reading ability of the pupils was also obtained. Finally, a test of critical reading, using materials written about the Negroes and the Germans was constructed and administered to the same pupils. The data obtained through the use of these instruments were then analyzed to determine the answers to the questions under investigation.

Prevailing Attitudes on the Part of High School Pupils Tested

Responses to the Survey of Opinions indicated a wide

range in attitude toward the Negro. However, when pupil responses to the questions in the Negro section of the Survey were scored, the mean score of the group was found to be higher than a theoretical mean score which would indicate an attitude of indifference. This suggests that the pupils were somewhat more favorably than unfavorably inclined toward the Negro.

Similarly, a wide range in the responses to the German section of the Survey was noted. Again the mean score of the pupils was slightly higher than the anticipated mean, indicating that the pupils held, more frequently than not, a favorable attitude toward Germans. Comparisons of the extent of this somewhat favorable attitude toward the Negroes and Germans were not made, because the two sections of the Survey were not directly comparable. In so far as the pupil population sampled was a representative one, these results indicate a trend toward an attitude of tolerance on the part of high school pupils toward these two groups.

The Relationship of Attitude and Critical Reading Ability

Do pupils with favorable attitudes toward a topic read with greater discrimination and accuracy than do pupils with indifferent, or neutral, attitudes toward a topic?--It was assumed in planning the investigation that an indifferent, or neutral, attitude toward a topic would have no significant effect upon reading performance. In seeking, therefore, the answer to the foregoing question, a comparison was made of the critical reading test scores of the group indifferent, and of the group most favorable, to the Negro. The differences which may have been due to other factors, such as general reading ability, chronological age, and mental age, were taken into account by means of a generalized formula for testing the significance of differences in experimental groups. The slightly higher mean score on the critical reading test made by the group favorable to the Negro was found not to be statistically significant. Similarly, the group of pupils favorable to the Germans did not achieve a higher score on the critical reading test than did the group indifferent to the Germans.

The conclusion was reached that as far as could be determined from the data secured in this study, the critical reading

performance of pupils favorable to a topic was not significantly different from that of pupils whose attitude was indifferent to the topic.

Do pupils with unfavorable attitudes read with less discrimination and accuracy than do pupils with an indifferent attitude toward a topic.--Comparisons of mean scores on the critical reading test for pupils indifferent to the Negro and pupils most unfavorable to the Negro disclosed a definitely lower mean score on the critical reading test for the latter group. These lower scores were demonstrated to be due neither to the inferiority of the group in general reading ability nor to lower mental age. Neither was the difference due to chance, as evidenced by the fact that it was significant at the one per cent level.

For the group unfavorable to the Germans no such clear-cut difference was revealed. The mean score on the critical reading test made by the group most unfavorable to the Germans did not differ significantly from the mean score obtained by the group indifferent to the Germans.

The results of the foregoing comparisons naturally gave rise to several questions which will be considered next.

Interpretation of Findings

Why did an unfavorable attitude affect reading about the Negro but not about the Germans?--Two possible explanations may be offered. First, lack of agreement may have been due to the nature of the materials used in the two sections of the critical reading test. For example, the section about the Negro included three short poems, while the section about the Germans included only prose selections. It is a fair assumption that the reading of poetry requires more precise and sensitive detection of implied meanings than does reading of prose. Emotional biases may therefore have had a greater chance to interfere with the pupils' ability to read critically the materials read in the Negro section of the test.

A second reason for the difference in results on the two sections of the test may be sought in the difference in the nature of the attitudes held toward the two peoples. In the case of the Germans, the unfavorable attitudes were undoubtedly brought about by events comparatively recent, and involved persons far removed from the daily, common experiences of the pupils. Attitudes

toward the Negro, on the other hand, were in most cases undoubtedly based upon a long-term association which must inevitably have included face-to-face contacts. An unfavorable attitude toward the Negro, therefore, may have had an intensity and sharpness not so characteristic of the unfavorable attitude held toward the Germans.

The foregoing interpretation is in accord with the findings of McCaul's study.¹ As reported earlier, he pointed out that the number of "unfavorable" replies was greater for the "Hitler" group than for the "Roosevelt" or the "Willkie" group, and attributed this to the probably greater aversion to Hitler.

The trends observed, both in this investigation and in McCaul's, point to the conclusion that the more personal, immediate or intense the feeling, the greater the likelihood that it will prove a barrier between the reader and an accurate interpretation of the material to be read.

Why did pupils having unfavorable rather than favorable attitudes obtain the lower scores on the critical reading test?-- Again two interpretations are possible. First, pupils most strongly prejudiced against the Negro may have felt some disinclination to read about the topic, whereas those indifferent or most favorable to that race experienced no such feeling. Dislike for the topic may have been sufficient to interrupt the smooth functioning of the usual processes of comprehending and interpreting the material read.

Second, the reading of emotionally toned material contrary in view to the prevailing attitude may account for errors made by the group most unfavorable to the Negro. Materials in the critical reading test which appear to the writer to be most likely to arouse emotional reactions are about the Negro, and are pro-Negro in tone. This seems especially likely in the case of the poems quoted. If so, the anti-Negro reader may have been most conspicuously confronted with materials having a strong emotional appeal contrary to his present convictions.

Evidence is available from other sources which indicates that the effect of propaganda contrary to the attitude of the reader leads to a mental state of confusion and irritation, rather than to a change of attitude. Schanck and Goodman sought to as-

¹McCaul, op. cit., p. 457.

certain the reaction of subjects to propaganda favorable and antagonistic to prevailing prejudices.¹ They found that propaganda contrary to the attitudes held by the reader appeared to lead to irritation and confusion rather than to a changed conviction. They concluded: "The effect of hearing propaganda in the opposite direction of prevailing prejudice, then, is not to bias individuals in the opposite direction, but to create conditions of conflict expressed in ignorance, perplexity, and loss of interest in a question."²

In conclusion, it may be stated that the comparison of the critical reading test scores of the pupil groups supplies evidence that an unfavorable attitude toward a topic of some personal and immediate concern tends to interfere with the critical reading of materials about that topic.

The Relationship of Various Factors to Attitude and to Reading Ability

The evidence secured in this study justifies also certain conclusions concerning the relationships of the pupils' chronological and mental ages to their reading ability, and to prevailing attitudes toward the topics investigated.

Does the chronological age of the pupil affect reading?--Correlations between chronological ages and scores on the reading tests used were very low, none being higher than .12. These correlations are similar to those observed by Monroe for a group of normal readers.³ It appears, therefore, that at the ninth grade level, chronological age does not significantly affect either general reading ability or ability to read critically in the areas included in the critical reading test.

Do the mental ages of the pupils affect reading ability?--As might be anticipated, a fairly high correlation was found between Language Mental Age and critical reading ability, as measured by the test used in this investigation. Correlations computed for groups indifferent to the peoples in question indicated a significant relationship between ability to read critically and

¹R. L. Schanck and Charles Goodman, "Reaction to Propaganda on Both Sides of a Controversial Issue," Public Opinion Quarterly, III (January, 1939), 107-12.

²Ibid., p. 112.

³Monroe, op. cit., p. 8.

Language Mental Age. Similar relationships were observed between mental age and ability to read in areas unaffected by prejudice, as indicated by scores on the Cooperative Reading Test.

These findings corroborate those of other investigators, who have found Language Mental Age closely related to reading comprehension as measured by reading tests.¹

Do the mental ages of the pupils affect attitudes held?—

No characteristic differences in Language Mental Age were observed for groups favorable or unfavorable to the Negroes and the Germans. It was apparent that no particular attitude was consistently associated with any particular level of mental ability.

Do chronological ages of the pupils affect attitudes

held?—As was the case of Language Mental Age, no effect of chronological age on attitude was observed. There were no significant differences between the ages of groups favorable and unfavorable to the Negro or to the Germans. The statement should be made, however, that these findings are based on data obtained from one grade level only. For this age range it appears that no particular attitude was characteristic of a particular age level of the pupils tested.

Implications for Instruction in Reading

The conclusions indicate that in order to use reading as a means of increasing breadth of understanding and promoting pupil growth in critical reading, attention must be given to three important points: (1) The effect which preconceived and emotionally toned ideas may have on reading, especially the effect of prejudices of long standing, (2) a method of identifying the attitudes held by pupils, and (3) methods of taking attitude into account in the selection, interpretation, and evaluation of materials.

In regard to the first point, this study has indicated that providing materials for reading in an area in which prejudices may operate does not assure rational and accurate reactions. Each pupil brings to his reading a background of ideas, preconceived notions and attitudes, which condition his reaction

¹Ruth Strang, "Variability in Reading Scores on a Given Level of Intelligence Test Scores," Journal of Educational Research, XXXVIII (February, 1945), 440-46.

to the printed page, and may even inhibit desired growth in power to read with understanding and keen discrimination. In order to assist the pupil in acquiring competence in drawing rational and accurate conclusions, and in achieving a broadened viewpoint, a knowledge of the pupil's present biases is essential.

In considering the second point, it must be recognized that the teacher may not discover a pupil's biases in the course of ordinary classroom associations. In fact, unfavorable attitudes may have been deliberately kept in the background by the pupil in such situations. Furthermore, the pupil often does not possess sufficient verbal facility to define his attitudes accurately even if called upon to do so. Some attention should therefore be directed toward the use of various techniques for discovering attitudes, such as attitude scales, questionnaires, informal interviews, and observations of pupil behavior.

If the presence and possible effects of attitudinal biases are known, groundwork has been laid for the third point, namely, consideration of ways in which attitudes may be taken into account in the selection, interpretation and evaluation of reading materials. Since materials having an emotional tone may be inaccurately read by those pupils having the strongest prejudices, it follows that guidance is needed in making such pupils aware of their own biases, and in selecting materials for them to read. It is essential that such pupils have assistance in learning to read critically materials which either reinforce or contradict previously established points of view.

A pertinent illustration may be given of a young student known to the writer who elected to study the causes of race riots. His apparent interest in the subject led to the false assumption on the part of the instructor that he was favorably inclined toward the Negro. Only a chance conversation disclosed the fact that he had been in Detroit during a recent race riot, and had formed decidedly unfavorable opinions of the Negro people. An understanding of this student's feelings, and cognizance of the dangers to adequate interpretation in this emotionalized situation would have been of considerable help to the instructor in promoting desirable outcomes from the reading the student wished to do.

Suggestions for Further Research

The following questions have arisen in the course of the study and are proposed here as a basis for further research regarding the relationship of attitudinal biases and reading.

1) Would the findings of this study be confirmed if a similar investigation were carried out, using other groups, and other topics? For example, what effect has attitude upon the reading of college students, or adults of a given level of educational attainment? Other topics - Communism, for example, or a political party - should present interesting opportunities for further investigation.

2) Does prejudice affect the grasp of the sense meaning of reading materials more than it does the interpretation and evaluation of such materials? It would be reasonable to assume that emotionalized biases would have a greater effect upon interpretation and evaluation. Some evidence to that effect is available in studies previously described, such as those by McCaul¹ and Strang,² and in comments by Rosenblatt.³ These writers recorded observation of the misinterpretations made by pupils in situations in which emotional reactions appeared to affect interpretation.

A study by Lefford indicated that emotionally toned reading materials in the form of syllogisms influence reasoning.⁴ In an attempt "to analyse some of the factors which deleteriously influence illogical thinking" he gave forty syllogisms to the subjects of the experiment. Of these syllogisms, twenty were neutral in tone, and twenty were of a "socially controversial nature." From the responses to these two types of syllogisms the writer concluded that "there is little relationship between the ability to reason accurately in non-emotional and in affective

¹McCaul, op. cit.

²Ruth Strang, Explorations in Reading Patterns, p. 2. Chicago: The University of Chicago Press, 1942.

³Rosenblatt, op. cit., p. 94.

⁴Arthur Lefford, "The Influence of Emotional Subject Matter on Logical Reasoning," Journal of General Psychology, XXXIV (April, 1946), 127-51.

situations."¹

The foregoing evidence suggests that attitude has a greater effect upon the interpretation and evaluation of reading materials than upon their comprehension or grasp of sense meaning. More direct evidence would be needed, however, to provide a final answer to this question.

3) What effect would the attitudes of the reader have upon reading that is intrinsically motivated? In the situation obtaining in this experiment the reader had no choice. The materials were placed before the pupils with the expectation that they would read them, whether they chose to do so or not. A situation in which different materials representing various points of view are readily accessible to pupils presents further possibilities for learning more about the effects of attitude upon reading. Would the pupil select only those materials representing his own present point of view? If not, would his interpretations of materials contrary to his bias be affected by his feeling?

4) How consistently does prejudice affect reading? To secure light on this issue, pupil reactions in particular areas of prejudice might be ascertained, and an analysis made of pupil reactions to reading materials within each of these areas. For example, an article concerned with the segregation of the Negro may be read by a pupil whose reactions are favorable toward the Negro in several respects, but not in respect to segregation. Will the responses elicited to questions on such materials present a pattern of response in harmony with his attitude toward the Negro in this respect?

5) What effect on reading might be observed if pupils read only materials reinforcing their attitude, or only materials contradictory to their attitude? For example, what effect might be observed on the reading of pupils strongly opposed to the Negro who read only materials agreeing with their point of view? What effect might be observed if these pupils read only materials disagreeing with their point of view? Would these reactions differ from those of pupils who had read materials both agreeing with and opposed to their prejudices? Studies previously quoted²

¹Ibid., p. 142.

²Schanek and Goodman, op. cit.; Lefford, op. cit.

regarding the effects of reading upon attitude, or the relation of emotionally toned materials to logical reasoning processes are related to these questions. There remain, however, the following unanswered questions: (a) what is the effect of attitude upon reading when reading materials tend to reinforce prevailing attitude, and (b) what is the effect of attitude upon reading when the materials read oppose prevailing attitude.

The collection of further evidence concerning the nature of the reaction to reading materials in areas in which attitudinal biases are apparent offers challenging opportunities. For those who seek to understand the interrelationship between feelings, experiences, and purposes of a reader and his choices of materials and his understanding and interpretation of them, many techniques of investigation are possible and useful. It is hoped that through further study a better knowledge of the interactions that take place between the idea expressed by the writer and the ideas and feelings aroused in the reader may be secured. Such knowledge is vitally important in an age so signally marked by rapid increase in the use of print for the promotion of special interests.

A P P E N D I X

ASPECTS OF CRITICAL READING

- I. Getting the meaning of words and phrases.
 - A. Selecting meaning suitable to the context.
 - B. Understanding metaphor.
 - C. Understanding special or abstract terms.

- II. Seeing relationships.

- A. Understanding organization.
 - 1. How are words and phrases related to their antecedents?
 - 2. How are sentences related to other sentences?
 - 3. How are sentences and paragraphs related to the entire selection?
 - 4. How are subordinate ideas related to main ideas?
 - 5. How are illustrations related to the main ideas?
 - B. Relating different accounts of the same subject.
 - 1. Seeing similarities.
 - 2. Seeing differences.
 - C. Relating facts given in the selection to facts already known to the reader.
 - D. Relating facts and opinions expressed in the selection to the time of writing.
 - E. Relating the material read to plans for action.
 - 1. Suggesting possible topics for further study.
 - 2. Suggesting new activities.

- III. Drawing conclusions from material read.

- A. Making inferences about
 - 1. The author's bias.
 - 2. The author's purpose.
 - 3. The author's mood and tone.
 - 4. The author's point of view.
 - 5. The emotional connotation of words.
 - 6. Other ideas not directly expressed.
 - B. Predicting outcomes.
 - C. Forming generalizations which would apply in other similar circumstances.
 - D. Reaching conclusions on the basis of facts presented.

- IV. Making an evaluation of the material read.

- A. Judging the relevance of the material read to the reader's purpose.
 - 1. Are the facts presented true?
 - 2. Is the treatment complete?
 - 3. Does a part or all of the selection pertain to the subject on which information is sought?
 - 4. Is the treatment factual?
 - B. Judging the author's competence.
 - 1. What are the sources of his information?
 - 2. Does he make overstatements?
 - 3. Are there gaps in his knowledge of the subject?
 - 4. Is the treatment thorough?

5. Is the author misinformed at any point?
 6. Does the author present both sides of the question?
 7. Does he belong to a special group which might account for his point of view, or his bias?
- C. Judging the validity of arguments.
1. Are emotion-arousing words used to influence the reader?
 2. What are the basic assumptions upon which the argument is based?
 3. Is the reasoning logical?
 4. Do the author's conclusions necessarily follow from the facts or arguments used?
 5. Are any relevant arguments or statements omitted?
 6. Are important words defined?
 7. Does the author use arguments which are relevant to the question?
 8. Are strong arguments used, or are the arguments weak?

THE CRITICAL READING TEST

"The German Army"

"Her [Germany's] formulae of aggression were invariable; first France and Russia were to be conquered, then came England - temporarily gulled into isolation - and then the world. Fichte died in 1814, and in 1914 Germany celebrated the centenary of her 5-Hundred Year's War against Happiness, for that is what German political philosophy has amounted to in practice. The drive, the tradition, above all, the popular appeal, of the call to slaughter were too strong to be halted by the set-back of 1918; revenge returned to the charge, and the German people were in it because 10-they had never got out of it. They had never desired to get out of it. On the contrary, the German people loved militarism, were inconsolable for its temporary loss, and wanted it back as soon as possible. 'The German Army is the German people.' The whole nation has repeated that for generations. It is the German Army, 15-and therefore the German people, that is now at its traditional butchery all over Europe. There is no escape from that; indeed the German people themselves repudiated escape, for conquest was, and is, their dream."

1. "Formulae", as used in line 1, means
 - 1-1. medicines.
 - 1-2. chemical symbols.
 - 1-3. historical records.
 - 1-4. plans for action.
2. The author is evidently
 - 2-1. friendly toward the Germans.
 - 2-2. critical of Germany's people as well as their leaders.
 - 2-3. in favor of militarism.
 - 2-4. opposed only to the policies of German leaders.
3. The "set-back" of 1918, mentioned in line 8, refers to
 - 3-1. the call to revenge.
 - 3-2. the defeat of Hitler.
 - 3-3. the defeat of Germany.
 - 3-4. the complete destruction of militarism.
4. "Repudiated," as used in line 18, means
 - 4-1. rejected.
 - 4-2. resisted.

- 4-3. revised.
- 4-4. pretended.
- 5. We may conclude from this selection that
 - 5-1. The German people do not approve of wars of aggression.
 - 5-2. German foreign policy has always been friendly to Russia.
 - 5-3. England has always been on the alert against Germany.
 - 5-4. We need not hope for much help against the Nazis inside Germany.
- 6. The author's comments on the position of the German people
 - 6-1. explains a formula.
 - 6-2. shows his view on the relation of the German Army to the German people.
 - 6-3. shows the influence of politics in Germany.
 - 6-4. proves we can have little peace so long as there is a Germany.

"Hitler's Rise to Power"

"Many Germans were so eager to hate somebody and to get revenge for their sufferings, that they cheered when Hitler raved against Jews and politicians and foreign bankers and Communists all together. They did not mind being confused, because Hitler was so exciting.

"In fact, one of the strongest reasons for Hitler's success is that he did not ask his followers to think. He said, 'Trust me, and all will be well.' And they did. They put their faith in him blindly, because they did not have to figure things out for themselves. They said, 'Our great leader Adolf Hitler will do our thinking for us. All we have to do is obey.' In every country, including our own, there are many people with lazy minds who like to follow a leader blindly, like sheep. Between 1923 and 1932, millions of Germans flocked to join the Nazis."

- 7. We conclude from this selection that dictators may get power chiefly because
 - 7-1. people do not want to think for themselves.
 - 7-2. a leader is exciting.
 - 7-3. a nation is suffering.
 - 7-4. people are suspicious of bankers and Jews.
- 8. We may judge from this reading that the Germans were eager to "hate somebody" because
 - 8-1. they did not like to think.
 - 8-2. they wanted to blame some one for their defeat.
 - 8-3. their hatreds were easily aroused.
 - 8-4. Hitler was so exciting.
- 9. From what you already know about Germany's condition after the first World War, you can believe that
 - 9-1. they probably imagined their sufferings.

- 9-2. Germany actually profited as a result of the war.
- 9-3. their sufferings were real, not imaginary.

- 10. This account of Hitler's rise to power seems to be
 - 10-1. simplified, but reasonable and helpful.
 - 10-2. complete and authoritative.
 - 10-3. inadequate - not enough information is given for one to understand the point the author is making.
 - 10-4. untrustworthy, because it is prejudiced and inaccurate.
- 11. Which of the following persons would be most likely to use these paragraphs?
 - 11-1. Someone searching for evidence of the persecution of the Jews.
 - 11-2. A student preparing a class report on the Nazi party.
 - 11-3. An army officer seeking an account of Germany's military strength.
 - 11-4. A news commentator preparing a talk on "How to Defeat Germany."
- 12. These paragraphs are like the first selection, "The German Army", in that
 - 12-1. they give some reasons for Hitler's rise to power.
 - 12-2. they point out that Hitler represents the people as well as the Nazi party.
 - 12-3. they both show that the German people cannot be blamed for the war.
 - 12-4. they explain why German leaders have always wanted conquest.

The German People

Our ideas of the German people are very muddled, and no wonder. On the one hand we have memories of a pleasant, happy, kindly folk, singing Christmas hymns, and patting the heads of rosy-cheeked, yellow-haired children. In great contrast to this 5-picture are accounts of concentration camps, brutal shootings, enslavement of free nations, treatment of helpless peoples which challenges belief in human kindness. Which is the true picture of Germany?

It might help if we recognized the fact that Germans 10-have always considered themselves a "master race" and the ruling of the world their natural destiny. Frederick the Great, Bismarck, Kaiser Wilhelm II, and Adolf Hitler, therefore, are no accidents. The theory of "blood and iron" is no new one in the German scheme of things. Be assured that Hitler's long-announced 15-policies of conquest, race-hatred, and power gained through ruthless murder, are more truly representative of the German people than we have realized.

No gentle, half-way measures are apt to be understood by the German mind when this war is over. Force is the only thing they know. Germany must be treated as an outlaw among nations. Anything else would endanger the peace for the next hundred years.

13. The purpose of the first paragraph is to

- 13-1. show the brutality of the German people.
- 13-2. prove that the German people are a happy, kindly folk.
- 13-3. raise a question which will be answered in a later paragraph.
- 13-4. bring to the attention of the reader his muddled state of mind.

14. The words "human kindness" used in line 7, mean

- 14-1. expected consideration for others.
- 14-2. the human race.
- 14-3. noble generosity.
- 14-4. man as distinguished from animal life.

15. The theory of "blood and iron" refers to

- 15-1. economic control of small countries having valuable resources.
- 15-2. the natural vigor and vitality of a nation's people.
- 15-3. strict insistence upon national purity of race.
- 15-4. using war as a means of getting more territory.

16. To carry out the author's recommendations, it would probably be necessary to

- 16-1. permit Germany to be a member of a League of Nations.
- 16-2. take little interest in the internal affairs of Germany.
- 16-3. offer Germany generous peace terms.
- 16-4. destroy Germany as a nation.

17. It is evident that the author

- 17-1. has kept very kindly memories of the Germans.
- 17-2. has considerable dislike for the German people.
- 17-3. is uncertain what position to take about the Germans.
- 17-4. dislikes German leaders, but admires the people.

18. It is likely that these paragraphs would be most useful for

- 18-1. showing why we have wars.
- 18-2. describing the best plan for post-war settlement.
- 18-3. proving there are Germans who have very likeable characteristics.
- 18-4. showing two opposing views of Germany.

19. It is evident from this selection that

- 19-1. the true picture of Germany includes much that is pleasant
- 19-2. Hitler's plans were long kept a secret.
- 19-3. the theory of "blood and iron" has been important in German history.
- 19-4. the German mind is misunderstood.

"The Key Question"

. . . "But the key question will puzzle many of us for a long time to come. How closely, we have been asking ourselves, are the German and Japanese people to be identified with their rulers? For myself, I frankly do not know. I should be inclined, 5-whenver possible, to give the great body of people the benefit of the doubt. Not that the great body of people in Japan and Germany are necessarily innocent, but I have a hunch that most of them had, in the final analysis, very little choice about what happened to them. Once the die was cast, they were in for it.

10- "Here, I submit, is where we have to give some attention to the nature of man. Why, for instance, will some men choose to ride with a given tide? And why will others fight against it? Why is it that the same culture can produce a Bismarck and a Goethe? A Mussolini and a Saint Francis? And if the answer 15-is that nations, like people, have within them the infinite capacity for good or evil, what can we do so that the good will predominate over the evil? My own feeling is that we have to look inside ourselves for the answers. For we are, in many ways, the very things we oppose in the enemy . . the people who still 20-think that Hitler was right. . . 'only maybe he should have been a little more legal about it'. . . the people who keep on saying democracy is all right. . . 'only you must can't make it work' . . . the people who say a certain amount of world unity is all right. . . 'but we can't carry this too far, you know . . . after all, you can't trust anyone who isn't an American' . . . and so on."

20. The phrase in line 9, "Once the die was cast" means

- 20-1. no choice is possible.
- 20-2. when the course was chosen.
- 20-3. when the shape was decided upon.
- 20-4. when all hope was lost.

21. To "ride with a given tide" as used in line 12 means

- 21-1. to harmonize with prevailing ways of living and thinking.
- 21-2. to behave suitably.
- 21-3. to take advantage of every opportunity.
- 21-4. to pay no attention to opposition.

22. In the sentence, line 18, "for we are, in many ways. . . ,"
the word "we" refers to

- 22-1. the readers of the selection.
- 22-2. the people of the United States.

- 22-3. the author and others like him.
 - 22-4. the people who thought Hitler was right.
23. The word "they" in the last sentence of the first paragraph refers to
- 23-1. the German rulers.
 - 23-2. the guilty Germans
 - 23-3. the great body of people.
 - 23-4. those who had a choice.
24. The author's point of view is that
- 24-1. German people are responsible for the evils of Hitler's government.
 - 24-2. the great body of German people are certainly innocent.
 - 24-3. there is good as well as evil in Germany.
25. According to the ideas expressed in this selection, one may conclude that
- 25-1. there is nothing in our life in any way like present day Germany.
 - 25-2. it is not possible to overwhelm a good person by the evil of his surroundings.
 - 25-3. Germany is so evil as to be beyond help.
 - 25-4. good men may be found in unfavorable surroundings.
26. It would be questionable to use the ideas in this selection as a guide in thinking about problems connected with Germany because
- 26-1. the author will not trust anyone who is not an American.
 - 26-2. it is slander to say we are like our enemies.
 - 26-3. the author gives no facts, relying entirely on hunches.
27. The purpose of the last part of the second paragraph is to
- 27-1. show that it is hard to make democracy work.
 - 27-2. show that anti-democratic feelings and prejudices exist even in our own country.
 - 27-3. show the need for world unity.
 - 27-4. show that the Germans may have been right after all.
28. We may conclude that
- 28-1. we should give the benefit of every doubt to the Germans.
 - 28-2. in a democracy good will always predominate over evil.
 - 28-3. the same environment may produce both good and evil people.
 - 28-4. our enemies differ widely in character from ourselves.

Racial Differences

The arguments for white racial supremacy are many and varied. Most important is the statement that the Negro is by nature inferior. Those who lean toward this view quote the well-

known fact that Negroes have made lower scores on intelligence 5-tests than have white persons of the same age. It was noted, for instance, that scores for the mental tests given to soldiers in World War I showed an average mental age of 13.1 for white men, and of 10.4 for Negro men. The difference may be explained, however, by pointing out the fact that it is not fair to 10-test the Negro by standards which are applied to white persons who have had superior advantages of education and surroundings. It was noticed, for example, that Negro soldiers from New York tested higher than white soldiers from Alabama.

Physical and moral traits also have been compared, to 15-the disadvantage of the Negro. His bodily characteristics have been described as more closely resembling the higher apes. Some persons therefore believe that the Negro is in a lower stage of evolution. The higher death rate among Negroes, as compared with whites, makes others believe that Negroes are, as a group, 20-poorer in physical development than white persons. It is true that the death rate among Negroes in the years 1910 to 1924 was 17.6 per thousand, while the death rate for white persons in the same period was 11.2 per thousand. Students of population problems point out, however, that this higher rate may well be due 25-to the more restricted diets, greater poverty, and much poorer health provisions for Negroes. There is, at present, one hospital bed available for every 139 white persons; and one hospital bed for 1,941 Negroes. The death rate among babies, always high among the underprivileged, is almost double that of whites.

30- In the same way the higher rate of crime among Negroes shows, according to some, the inherent criminal instincts of the race. In 1910 there were 384 Negro prisoners per 100,000 population, but only 89 white prisoners per 100,000 population. So striking a difference in the ratio of white and colored prisoners, they conclude, can have but one cause - the innate criminal tendency of the Negro. Our reaction to this conclusion may be somewhat changed when we learn that the 1910 census showed the average jail sentence for whites was 5.2 months, while the average sentence for the Negro was 17.4 months. Often, 40-too, the Negro does not have money to pay bail. Greater illiteracy, overcrowding in living quarters, poverty, and poorer provision for the care of mentally unbalanced Negroes may also account for much of the difference in these two figures.

31. "Racial supremacy" as used in line 1, means
 - 31-1. the white race has greater numbers.
 - 31-2. a race is considered superior.
 - 31-3. a political party gets votes through prejudice.
 32. The word "they" mentioned in line 35 refers to
 - 32-1. criminally inclined Negroes.
 - 32-2. those who believe the Negro has innate criminal tendencies.
 - 32-3. the readers of the selection.
 - 32-4. prison inmates.
 33. We may expect from the information given that there will be
 - 33-1. more white prisoners than colored in 1944.
 - 33-2. 384 Negro prisoners to 89 white prisoners in 1944.
 - 33-3. 89 more white than colored prisoners in 1944.
 - 33-4. a larger number of colored than white prisoners per 100,000 population in 1944.
 34. "Inherent", in line 31 means
 - 34-1. to inherit.
 - 34-2. overwhelming.
 - 34-3. persistent.
 - 34-4. inborn.
 35. The statements made, and the figures quoted by the author
 - 35-1. may be verified.
 - 35-2. may be verified with great difficulty.
 - 35-3. do not agree with the facts known about the Negro.
 36. The author of this selection evidently feels
 - 36-1. very favorable towards the Negro.
 - 36-2. slightly prejudiced against the Negro.
 - 36-3. favorable towards the Negro.
 37. The arguments used to convince the reader that the Negro has no criminal tendencies
 - 37-1. appeal only to the prejudices of the reader.
 - 37-2. are merely over-statements, going beyond the facts presented.
 - 37-3. include factual evidence which may be checked.
 - 37-4. fail to include some important facts.
 38. In considering the author's statements about the Negro, we should notice that
 - 38-1. he has given facts which provide a basis for conclusions.
 - 38-2. his strongly favorable attitude toward the Negro has influenced his statements.
 - 38-3. his arguments do not apply to the question.
 - 38-4. he has failed to present both sides of the question.
- "Americans of good will, the nice, decent church people, the well-meaning liberals, the good-hearted souls who themselves wouldn't lynch anyone, must begin to realize that they have to be more than passively good-hearted, more than church-goingly 5-Christian, and much more than word-of-mouth in their liberalism,

if they want to save America from turning into the kind of Hitler land we are sending millions of young men to rescue from the quagmire abroad.

"What happens now, to me a Negro, in Beaumont, Camp Stewart, or Detroit, is the test of what happens to America tomorrow. If the real Americans want to let the Klan-minded keep on as they are going, growing stronger and stronger, more and more evil; spreading their hate and terror from me to Japanese-Americans, to Mexican-Americans, to Jewish-Americans and, once well-started, on and on until NO American who isn't armed with viciousness like a Chicago gangster will be safe, then God knows we are in for a dark age sure enough. And it won't be just dark people who will suffer.

"Are only Jews suffering in Hitler's Europe? It was easy for many good citizens here to merely sigh and so nothing when Hitler started with the Jews. They didn't realize that was just a start. It was equally easy to simply shrug their shoulders when Germany and Italy invaded Spain and backed up the Fascist Franco. It is still easy in America not to mind too much when the fascist-marked snake bites the little colored boy who lives across the railroad track - while you are white and live in the pretty part of town, and do not realize what it is to grow up Jim Crowed, to be seated in the last row on the left in the movies, barred out of the track meets in high school, offered a janitor's job when you graduate, lynched down South if you act too much like you don't care for our very ugly snake.

"Wake up, nice people, in the pretty part of town, before that snake bites you!"

- 39-1. To save America, according to this author, we should
 - 39-1. pay less attention to the well-meaning liberals.
 - 39-2. take more interest in what goes on in Europe.
 - 39-3. have more decent, good-hearted, church-going people.
 - 39-4. prevent the spread of discrimination and prejudice against any group.
- 40. The main idea of this selection is
 - 40-1. Hitler's persecution began with the Jews, and spread to other people.
 - 40-2. under Fascism only gangsters are safe.
 - 40-3. it is unjust for a well-trained Negro boy to have only a janitor's job offered to him.
 - 40-4. it is dangerous for well-intentioned people to ignore persecution.

41. Which of the names or terms below did the author use because of the feelings of resentment they arouse in the reader?
- 41-1. liberalism.
 - 41-2. Negro.
 - 41-3. pretty part of town.
 - 41-4. Mexican-Americans.
42. By the term "fascist-marked snake" (line 25), the author means
- 42-1. Hitler.
 - 42-2. people who have prejudice against the Negro.
 - 42-3. well-meaning people who ignore justice.
 - 42-4. persecution, hate, and terror.
43. A "quagmire," as the word is used in line 8, means
- 43-1. an unhealthy marshland.
 - 43-2. a section of "Niggertown."
 - 43-3. the state of extreme difficulty and uncertainty in Europe.
44. By "real Americans," in line 11, the author means
- 44-1. colored people.
 - 44-2. word of mouth liberals.
 - 44-3. every well-meaning, decent citizen.
 - 44-4. the church-going Christians.
45. As evidence to show that "what happens to me, a Negro... is the test of what happens to America tomorrow," the author tells us that
- 45-1. persecution in Germany began with one small group and spread to others.
 - 45-2. we are in for some dark days.
 - 45-3. we will all be armed like gangsters.
 - 45-4. Fascist ideas make dark people suffer.
46. The third paragraph
- 46-1. does not report the facts about the treatment of the Negro.
 - 46-2. somewhat over-emphasizes the facts.
 - 46-3. gives some illustrations of racial discrimination.
 - 46-4. is a very mild statement of what indignities Negroes endure.
47. If you wished to know about incidents which give indication of actual conditions among American Negroes, this selection would give you
- 47-1. all the information you need.
 - 47-2. nearly all the information you need.
 - 47-3. some information.
 - 47-4. no information.

I, too, sing America

I am the darker brother.
 They send me to eat in the kitchen
 When company comes.
 But I laugh,
 And eat well,
 and grow strong.

Tomorrow
 I'll sit at the table
 When company comes.
 Nobody'll dare
 Say to me
 "Eat in the kitchen"
 Then.

Besides,
 They'll see how beautiful I am
 And be ashamed --

I, too, an American.

48. We may judge from the second stanza that
- 48-1. the speaker expects to use violence if any one dares oppose him.
 - 48-2. the speaker foresees the time when another race will be in power.
 - 48-3. the speaker believes there will come a time when discrimination because of color will not be permitted.
 - 48-4. the speaker feels that the superiority of the colored race will be seen by all the people.
49. If we carried out the main idea of this poem in every day life, we should probably
- 49-1. seat all Negroes in the balcony at public meetings.
 - 49-2. let Negro workers have any type of work for which they are qualified.
 - 49-3. make a habit of looking for beauty in common things.
 - 49-4. give away more food and clothing to needy Negroes.
50. The shame mentioned in the last stanza will be felt by
- 50-1. everyone in America.
 - 50-2. everyone who has been unfair to members of another race.
 - 50-3. everyone in the house.
 - 50-4. everyone who has been impolite to a guest.
50. "When company comes" refers to
- 51-1. a distinguished visitor.
 - 51-2. a Negro who has gained fame.
 - 51-3. any occasion of importance.
 - 51-4. people who really matter.
52. "Tomorrow" in the second stanza means
- 52-1. the next day.
 - 52-2. a day coming very soon.
 - 52-3. the day after today.
 - 52-4. some future time.

"Nigger"

Little Black boy
 Chased down the street -
 "Nigger, nigger, never die
 Black face and shiny eye
 Nigger . . nigger . . nigger . ."

Hanniball . . . Hannibal
 Bangin' through the Alps
 Licked the proud Romans
 Ran home with their scalps -
 "Nigger . . nigger . . nigger . ."

Crispus . . . Attucks
 Bullets in his chest
 Red blood of freedom
 Runnin' down his vest
 "Nigger . . nigger . . nigger . ."

Toussaint . . . Toussaint
 Made the French flee
 Fought like a demon
 Set his people free -
 "Nigger . . nigger . . nigger . ."

Jesus . . . Jesus
 Son of the Lord
 - Spit in his face
 - Nail him on a board
 "Nigger . . nigger . . nigger . ."

53. The third and fourth lines of the second stanza mean
- 53-1. the Romans sometimes scalped their enemies.
 - 53-2. Hannibal followed the Indian practice of scalping.
 - 53-3. the Romans were too proud to fight.
 - 53-4. Hannibal defeated the Romans.
54. The indented stanzas are
- 54-1. illustrations of the persecutions of the Negro.
 - 54-2. illustrations which develop the main theme of the poem.
 - 54-3. statements of the main theme of the poem.
 - 54-4. additional arguments for the inferiority of the Negro.
55. The author intended the fifth stanza to suggest that
- 55-1. he believes that Christ was colored.
 - 55-2. the little Black boy will be put to death.
 - 55-3. he thinks that persecution is sinful.
 - 55-4. the Negro has a common bond with Christ through suffering.
56. The heroic deeds described in stanzas two, three and four
- 56-1. are characteristic of the Negroes as a group.
 - 56-2. show that the little Black boy should fight back.
 - 56-3. have nothing to do with the little Black boy.
 - 56-4. show that the little Black boy has something in common with great and noble men.

"Confession"

If for a day joy masters me,
 Think not my wounds are healed;
 Far deeper than the scars you see,
 I keep their roots concealed.

They shall bear blossoms in the fall;
 I have their word for this,
 Who tend my roots with rains of gall,
 And suns of prejudice.

57. By "rains of gall" is probably meant
 57-1. a lot of nerve.
 57-2. wormwood.
 57-3. many unfriendly acts.
 57-4. a bitter drink.
58. "They" in the first line of the second stanza refers to
 58-1. the concealed roots.
 58-2. the people who tend the roots.
 58-3. the people who have prejudice.
59. The word "masters" as used in the first stanza means
 59-1. people in authority.
 59-2. gentlemen.
 59-3. punishes.
 59-4. overcomes.
60. In which of the following ways are the three poems you have just read alike?
 60-1. They are written in a tone of bitterness and resentment.
 60-2. They exaggerate the persecutions suffered by the Negro.
 60-3. They show that the Negro will improve in the future.
 60-4. They show some reaction to prejudice.

THE SURVEY OF OPINIONS, TRIAL FORM

CURRENT AFFAIRS SURVEY, PART I

A survey of the interests of junior high school pupils in current problems is being made. It will be very helpful if you will fill in the following blanks. Please be brief, and include only those titles of books, articles, etc. which you consider most important, and which you read most frequently.

I.

Name.....

Date..... Instructor.....

What do you consider the two most important problems "on the home front" today?

1.....

2.....

What do you consider the two most important problems connected with foreign policy?

1.....

2.....

II.

Newspaper read most frequently?.....

Magazine read most frequently?.....

Radio news broadcast heard most often?.....

III.

What book, story, article have you read, or what movie or play have you seen which gave you a better and more sympathetic understanding of the people of some other nation?

(1) Title.....

(2) Nation portrayed.....

(3) Title.....

(4) Nation portrayed.....

IV.

About how much time per day do you spend in newspaper reading?

..... Other reading?.....

SURVEY OF OPINIONS

Section I.

A study is being made of what people think about several current questions. Below you will find some statements about the Germans. If you agree with the statement, make a plus (+) mark by it; and if you disagree, make a minus (-). If you feel strongly about the statement, draw a circle around the mark you have made. Thus + means "I strongly agree", while - means "I strongly disagree". If you are uncertain place a question mark near the number of the statement.

This is NOT an examination, and there are no right or wrong answers. This is merely an attempt to find out what people are thinking about these statements. Try to mark all the statements. Work quickly, but carefully.

- _____ 1. The German people as a whole are good people.
- _____ 2. Germany should have as much consideration after the war as any other nation.
- _____ 3. The Germans are people who torture just for the love of seeing people in pain.
- _____ 4. The German people who are now in Germany should be exterminated.
- _____ 5. You can generally trust the Germans.
- _____ 6. The German people let their leaders do their thinking for them.
- _____ 7. Very few Germans have any feelings of kindness and mercy.
- _____ 8. The people of Germany are forced into wars by their leaders.
- _____ 9. There are a great many nice Germans.
- _____ 10. The acts of the German leaders have the full approval of most of the people of Germany.
- _____ 11. Stories of the cruelty of the Germans are mostly propaganda.
- _____ 12. If the German nation is destroyed by this war, the world will be better off.
- _____ 13. The German people will make fine world citizens if they are given a chance.

- _____ 14. The Germans are brutal.
- _____ 15. The German leaders, rather than the German people, are responsible for the brutal treatment of helpless people.
- _____ 16. The German people should be generously treated after the war.
- _____ 17. The Germans are a very friendly people.
- _____ 18. If we are too easy on the Germans, they will start another war.
- _____ 19. The Germans believe they were born to rule the world.
- _____ 20. The German people as a whole are kind and gentle.
- _____ 21. We should kill all German soldiers.
- _____ 22. I feel an admiration for the German people.
- _____ 23. We should punish the German people.
- _____ 24. The people of Germany are responsible for the war.
- _____ 25. There is scarcely a good German left in Germany today.
- _____ 26. Peace terms at the end of the war should leave Germany an undivided nation.

Section II.

Mark the statements in this section in the same way as you did in Section I.

- _____ 1. Negroes should have a better chance for education.
- _____ 2. The Negro should have the right to vote.
- _____ 3. Some Negroes should not vote.
- _____ 4. A Negro should have the right to hold any job for which he is qualified.
- _____ 5. In some sections where the colored population is very heavy, the Negro should not be allowed to vote.
- _____ 6. Most Negroes do not need an education beyond the eighth grade.
- _____ 7. Some types of jobs should not be open to Negroes.
- _____ 8. A Negro should have the same educational opportunities as the white person.
- _____ 9. The same wage for equal work should be paid the Negro and the white man.
- _____ 10. The Negro ought to be given the kinds of work the white

people do not care to do.

- _____ 11. The Negro should be allowed to work in any occupation.
- _____ 12. The Negro is not worth being educated.
- _____ 13. If the Negroes were given a chance they would change completely in a few generations.
- _____ 14. The Negro is entitled to more consideration than he now receives.
- _____ 15. I don't believe the Negro has made many contributions to civilization.
- _____ 16. All Negroes should be called "nigger."
- _____ 17. I think the Negroes are as good as white people.
- _____ 18. Many Negroes have a pleasing appearance.
- _____ 19. A Negro can learn as easily as a white person if he has a chance.
- _____ 20. The black races were created inferior to the white.
- _____ 21. Negroes are naturally inclined to be criminals.
- _____ 22. Give the Negro half a chance and he will not be inferior.
- _____ 23. I think the Negro is by nature inferior to the white man.
- _____ 24. The Negro is just as intelligent as the white person.
- _____ 25. I think the Negro's appearance shows him to be in a lower stage of evolution than the white man.
- _____ 26. Many Negroes are very intelligent.
- _____ 27. The Negro is not inferior.
- _____ 28. A Negro child has the ability to learn just as the white child has.
- _____ 29. The Negro gets angry too fast.
- _____ 30. The appearance of Negroes isn't especially good.
- _____ 31. I would invite a Negro friend to go swimming with me.
- _____ 32. I believe the Negro is physically weaker than the white man.
- _____ 33. Although I like my Negro friends very much, I would not invite them to my house.
- _____ 34. Negroes should not be made to sit on the back seat in the bus.

- ____ 35. I certainly wouldn't want to dance with a Negro at a party.
- ____ 36. At public meetings Negroes should be allowed to sit where they choose.
- ____ 37. Donations of Negro blood for general use should not be accepted by the Red Cross.
- ____ 38. I think the Negro and white should live together more; it would help both races.
- ____ 39. Negroes should be allowed to live anywhere they choose.
- ____ 40. Negroes should not live as neighbors to white people.
- ____ 41. Public beaches and parks should have separate spaces for colored people.

Please draw a circle around the answer which most closely describes your own feeling about each of the three peoples mentioned.

- I. In general, my feeling toward the Germans is:
- a. strongly favorable b. favorable c. neutral
d. unfavorable e. strongly unfavorable.
- II. In general, my feeling toward the Negro is:
- a. strongly favorable b. favorable c. neutral
d. unfavorable e. strongly unfavorable
- III. In general, my feeling toward the Russians is:
- a. strongly favorable b. favorable c. neutral
d. unfavorable e. strongly unfavorable.

SURVEY OF OPINIONS, FINAL FORM

CURRENT AFFAIRS SURVEY

PART I.

.....

A survey of the interests of high school pupils in current problems is being made. It will be very helpful if you will fill in the following blanks.

- - - I. - - -

Name.....

Date.....

Instructor.....

Grade..... Period.....

- - - II. - - -

What do you consider the two most important problems connected with foreign policy?

1.....

.....

2.....

.....

- - - III. - - -

Newspaper read most frequently?.....

Magazine read most frequently?.....

- - - IV. - - -

About how much time per day do you spend in newspaper reading?

.....

Other reading?.....

SURVEY OF OPINIONS, PART II.

SECTION I.

A study is being made of what people think about several current questions. Below you will find some statements about the Germans. If you agree with the statement, make a plus (+) mark by it; if you disagree, make a minus (-). If you feel strongly about the statement, draw a circle around the mark you have made. Thus, + means "I strongly agree," while - means "I strongly disagree." If you are uncertain place a question mark near the number of the statement.

This is NOT an examination, and there are no wright or wrong answers. This is merely an attempt to find out what people are thinking about these statements. BE SURE TO MARK ALL THE STATEMENTS. Work quickly, but carefully.

- _____ 1. The German people as a whole are good people.
- _____ 2. Germany should have as much consideration after the war as any other nation.
- _____ 3. The Germans are people who torture just for the love of seeing people in pain.
- _____ 4. The German people who are now in Germany should be exterminated.
- _____ 5. You can generally trust the Germans.
- _____ 6. The German people let their leaders do their thinking for them.
- _____ 7. Very few Germans have any feelings of kindness and mercy.
- _____ 8. The people of Germany are forced into war by their leaders.
- _____ 9. There are a great many nice Germans.
- _____ 10. The acts of the German leaders have the full approval of most of the people of Germany.
- _____ 11. Stories of the cruelty of the Germans are mostly propaganda.
- _____ 12. If the German nation is destroyed by this war, the world will be better off.
- _____ 13. The German people will make fine world citizens if they are given a chance.
- _____ 14. The Germans are brutal.
- _____ 15. The German leaders, rather than the German people, are

responsible for the brutal treatment of helpless people.

- _____ 16. The German people should be generously treated after the war.
- _____ 17. The Germans are a very friendly people.
- _____ 18. If we are too easy on the Germans, they will start another war.
- _____ 19. The Germans believe they were born to rule the world.
- _____ 20. The German people as a whole are kind and gentle.
- _____ 21. We should kill all German soldiers.
- _____ 22. I feel an admiration for the German people.
- _____ 23. We should punish the German people.
- _____ 24. The people of Germany are responsible for the war.
- _____ 25. There is scarcely a good German left in Germany today.
- _____ 26. Peace terms at the end of the war should leave Germany an undivided nation.

Section II.

Mark the statements in this section in the same way that you did those in Section I.

- _____ 1. Negroes should have a better chance for education.
- _____ 2. Some Negroes should not vote.
- _____ 3. A Negro should have the right to hold any job for which he is qualified.
- _____ 4. Most Negroes do not need an education beyond the eighth grade.
- _____ 5. Some types of jobs should not be open to Negroes.
- _____ 6. A Negro should have the same educational opportunities as the white person.
- _____ 7. The same wage for equal work should be paid the Negro and the white man.
- _____ 8. The Negro ought to be given the kinds of work the white people do not care to do.
- _____ 9. The Negro should be allowed to work in any occupation.
- _____ 10. The Negro is not worth being educated.
- _____ 11. If the Negroes were given a chance they would change completely in a few generations.

- _____ 12. The Negro is entitled to more consideration than he now receives.
- _____ 13. I don't believe the Negro has made many contributions to civilization.
- _____ 14. I think the Negroes are as good as white people.
- _____ 15. Many Negroes have a pleasing appearance.
- _____ 16. Negroes are naturally inclined to be criminals.
- _____ 17. Give the Negro half a chance and he will not be inferior.
- _____ 18. I think the Negro is by nature inferior to the white man.
- _____ 19. The Negro is just as intelligent as the white person.
- _____ 20. I think the Negro's appearance shows him to be in a lower stage of evolution than the white man.
- _____ 21. Many Negroes are very intelligent.
- _____ 22. The Negro is not inferior.
- _____ 23. A Negro child has the ability to learn just as the white child has.
- _____ 24. The Negro gets angry too fast.
- _____ 25. I would invite a Negro friend to go swimming with me.
- _____ 26. Although I like my Negro friends very much, I would not invite them to my house.
- _____ 27. Negroes should not be made to sit on the back seat in the bus.
- _____ 28. I certainly wouldn't want to dance with a Negro at a party.
- _____ 29. At public meetings Negroes should be allowed to sit where they choose.
- _____ 30. Donations of Negro blood for general use should not be accepted by the Red Cross.
- _____ 31. I think the Negro and white should live together more; it would help both races.
- _____ 32. Negroes should be allowed to live anywhere they choose.
- _____ 33. Negroes should not live as neighbors to white people.
- _____ 34. Public beaches and parks should have separate spaces for colored people.

Look back over your work. HAVE YOU MARKED EVERY STATEMENT?

Please draw a circle around the answer which most closely describes your own feeling about each of the two peoples mentioned.

1. In general, my feeling toward the Germans is:

- a. strongly favorable.
- b. favorable.
- c. undecided.
- d. unfavorable.
- e. strongly unfavorable.

2. In general, my feeling toward the Negro is:

- a. strongly favorable.
- b. favorable.
- c. undecided.
- d. unfavorable.
- e. strongly unfavorable.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Adler, Mortimer J. How to Read a Book: the Art of Getting a Liberal Education. New York: Simon and Schuster, 1940. Pp. ix+398.
- Adler, Florence C. "Toward Good Will," High Points, XXVI (June, 1944), 17-28.
- Allport, Gordon W. "Attitudes," A Handbook of Social Psychology, pp. 798-844. Edited by Carl Murchison. Worcester, Massachusetts: Clark University Press, 1935. Pp. xii+1195.
- Bell, Harry. "Comprehension in Silent Reading," British Journal of Educational Psychology, XII (February, 1942), 47-55.
- Boyd, George Robert. The Construction of an Instrument for Measuring Attitudes toward Desirable Food Practices. Bulletin of the Bureau of School Service. College of Education, the University of Kentucky, XVI (September, 1943). Lexington, Kentucky: The University of Kentucky. Pp. 89.
- Broening, Angela M. "Abilities Which Contribute to Effective Reading," Education, LXII (September, 1941), 11-17.
- Cherrington, Ben M., and Miller, L. W. "Changes in Attitude as the Result of a Lecture and of Reading Similar Materials," Journal of Social Psychology, IV (November, 1933), 497-86.
- Collier, Rex Madison. "The Effect of Propaganda upon Attitude Following a Critical Examination of the Propaganda Itself," Journal of Social Psychology, XX First Half (August, 1944), 3-17.
- Conant, Margaret M. The Construction of a Diagnostic Reading Test. Teachers College Contributions to Education No. 861. New York: Teachers College, Columbia University, 1942. Pp. viii+156.
- Corey, Stephen M. "Changes in the Opinions of Female Students after One Year at a University," Journal of Social Psychology, XI (May, 1940), 341-51.
- Corey, Stephen M. "Professed Attitudes and Actual Behavior," Journal of Educational Psychology, XXVIII (April, 1937), 271-80.
- Corey, Stephen M. "Signed versus Unsigned Attitude Questionnaires," Journal of Educational Psychology, XXVIII (February, 1937), 144-48.

- Day, Daniel D. "Methodological Problems in Attitude Research," Journal of Social Psychology, XIV (August, 1941), 165-79.
- Davis, Frederick B. "Fundamental Factors of Comprehension in Reading," Psychometrika, IX (September, 1944), 185-97.
- Davis, Frederick B. "Two New Measures of Reading Ability," Journal of Educational Psychology, XXXIII (May, 1942), 365-72.
- Dewey, Joseph C. "A Case Study of Reading Comprehension Difficulties in American History." Doctoral thesis in Education, III. University of Iowa Studies in Education, X, No. 1, pp. 26-50. Iowa City: University of Iowa, 1935.
- Dewey, Joseph. "A Technique for Investigating Reading Comprehension," School and Society, XXXIX (March 3, 1934), 276.
- Droba, D. D. "The Nature of Attitude," Journal of Social Psychology, IV (November, 1933), 444-63.
- Dunlap, Jack W., and Kroll, Abraham. "Observations on the Methodology in Attitude Scales," Journal of Social Psychology, X (November, 1939), 475-87.
- Durrell, Donald D. The Improvement of Basic Reading Abilities. Yonkers-on-Hudson, New York: World Book Co., 1940. Pp. viii+408.
- Farnsworth, Paul P. "Shifts in the Values of Opinion Items," Journal of Psychology, XVI (July, 1943), 125-28.
- Feder, D. D. "Comprehension Maturity Tests - A New Technique in Mental Measurement," Journal of Educational Psychology, XXIX (November, 1938), 597-606.
- Ferguson, Leonard W. "A Study of the Likert Technique of Attitude Scale Construction," Journal of Social Psychology, XIII (February, 1941), 51-57.
- Flesch, Rudolf F. "Estimating the Comprehension Difficulty of Magazine Articles," Journal of General Psychology, XXVIII (January, 1943), 63-80.
- Garrett, Henry E. Statistics in Psychology and Education. New York: Longmans, Green and Co., 1926. Pp. xiii+317.
- Gibbons, Helen D. "Reading and Sentence Elements," Elementary English Review, XVIII (February, 1941), 42-46.
- Good, Carter V., Barr, A. S., and Scates, Douglas E. The Methodology of Educational Research. New York: D. Appleton-Century Co., 1936. Pp. xxi+882.
- Grim, Paul R. "A Technique for the Measurement of Attitudes in the Social Studies," Educational Research Bulletin, XV (April 15, 1936), 95-104.

- Grim, Paul R. "Interpretation of Data and Reading Ability in the Social Studies," Educational Research Bulletin, XIX (September 25, 1940), 372-74.
- Hayakawa, S. I. "Ways in Which Passages Are Misinterpreted and Possible Explanations," Reading in Relation to Experience and Language, pp. 84-89. Supplementary Educational Monographs No. 58. Compiled and edited by William S. Gray. Chicago: The University of Chicago, 1944. Pp. vii+226.
- Hilliard, George Horatio. Probable Types of Difficulties Underlying Low Scores in Comprehension Tests. University of Iowa Studies in Education, Vol. II, No. 6. Iowa City, Iowa: The University of Iowa, 1924. Pp. 60.
- Holzinger, Karl J. Statistical Methods in Education. Boston: Ginn and Co., 1928. Pp. viii+372.
- Institute for Propaganda Analysis, Inc. The Fine Art of Propaganda; A Study of Father Coughlin's Speeches. Edited by Alfred McClung Lee and Elizabeth Briant Lee. New York: Harcourt Brace and Co., 1939. Pp. xi+140.
- Johnson, William H., Superintendent of Schools. "Supplementary Units for the Course of Study in Social Sciences," Grades 7-8. Chicago: Bureau of Curriculum, City of Chicago, 1942.
- Knower, Franklyn H. "A Study of the Effect of Printed Argument on Changes in Attitudes," Journal of Abnormal and Social Psychology, XXX (January-March, 1936), 522-32.
- Kopel, David. "Semantics and the Teaching of Reading," Educational Method, XXI (March, 1942), 270-77.
- Kottmeyer, William. "Classroom Activities in Critical Reading," School Review, LII (November, 1944), 557-64.
- Langsam, Rosalind S. "A Factorial Analysis of Reading Ability," Journal of Experimental Education, X (September, 1941), 57-63.
- Lee, J. Murray. A Guide to Measurement in Secondary Schools. New York: D. Appleton Century Co., 1936. Pp. xv+314.
- Lefford, Arthur. "The Influence of Emotional Subject Matter on Logical Reasoning," Journal of General Psychology, XXXIV (April, 1946), 127-51.
- Likert, Rensis, Roslow, Sydney, and Murphy, Gardner. "A Simple and Reliable Method of Scoring the Thurstone Attitude Scales," Journal of Social Psychology, V (May, 1934), 228-38.
- Lindquist, E. F. A First Course in Statistics, Their Use and Interpretation in Education and Psychology. New York: Houghton Mifflin Co., 1938. Pp. xii+226.

- Looby, Ruth. "Understandings Children Derive from Their Reading," Elementary English Review, XVI (February, 1939), 58-62.
- Löwi, Moritz. "Observations on Comprehending," American Journal of Psychology, LVI (January, 1943), 129-33.
- Luthi, Loren R. "A Case Study of Reading Comprehension Difficulties in Science Materials," Science Education, XXV (October, 1941), 255-60.
- McCaul, Robert L. "The Effect of Attitude upon Reading Interpretation," Journal of Educational Research, XXXVII (February, 1944), 451-57.
- McKee, Paul. "The Problem of Meaning in Reading," English Journal, XXX (March, 1941), 219-24.
- Menseffee, Seldon C. "The Effect of Stereotyped Words on Political Judgments," American Sociological Review, I (August, 1936), 614-21.
- Monroe, Marion. Children Who Cannot Read. Chicago: University of Chicago Press, 1932. Pp. xvi+205.
- Murphy, Gardner, and Likert, Rensis. Public Opinion and the Individual. New York: Harper Brothers, 1938. Pp. viii+316.
- Murphy, Gardner, Murphy, Lois Barclay, and Newcomb, Theodore M. Experimental Social Psychology. New York: Harper Brothers, 1937. (Revised.) Pp. xi+1121.
- Neumann, George B. A Study of International Attitudes of High School Students. Bureau of Publications, Teachers College. New York: Columbia University, 1926. Pp. vi+120.
- Peterson, Ruth C., and Thurstone, L. L. Motion Pictures and the Social Attitudes of Children. New York: Macmillan Co., 1933. Pp. xvii+75.
- Pickford, R. W. "The Tendency towards Synthesis in Reading," British Journal of Psychology, XXIV, Part I (July, 1933), 50-66.
- Remmers, H. H. "Attitude toward Germans, Japanese, Jews and Nazis as Affected by the War," School and Society, LVII (January 30, 1943), 138-40.
- Remmers, H. H. "Studies in Attitudes," Studies in Higher Education, Bulletin of Purdue University, XXVI (December, 1934). Lafayette, Indiana: Purdue University. Pp. 112.
- Remmers, H. H. "Further Studies in Attitudes, Series II," Studies in Higher Education, Bulletin of Purdue University, XXVI (December, 1936). Lafayette, Indiana: Purdue University, Pp. 298.

- Remmers, H. H. "Further Studies in Attitudes, Series III," Studies in Higher Education, Bulletin of Purdue University, XXXIV (September, 1938). Lafayette, Indiana: Purdue University. Pp. 151.
- Robinson, Francis P., and Hall, Prudence. "Studies of Higher Level Reading Abilities," Journal of Educational Psychology, XXXII (April, 1941), 241-52.
- Rosenblatt, Louise. Literature as Exploration. New York: D. Appleton-Century Co., 1938. Pp. xiii+340.
- Ruch, Giles Murrell. The Objective or New-Type Examination. Chicago: Scott Foresman and Co., 1939. Pp. x+478.
- Salisbury, Rachel. "A Study of the Transfer Effects of Training in Logical Organization," Journal of Educational Research, XXVIII (December, 1934), 241-54.
- Sargent, S. S. "Emotional Stereotypes in the Chicago Tribune," Sociometry, II (April, 1939), 69-75.
- Schanok, R. L., and Goodman, Charles. "Reaction to Propaganda on Both Sides of a Controversial Issue," Public Opinion Quarterly, III (January, 1939), 107-12.
- Seashore, Robert H., and Hevner, Kate. "A Time-Saving Device for the Construction of Attitude Scales," Journal of Social Psychology, IV (August, 1933), 366-73.
- Seeleman, Virginia. The Influence of Attitude upon the Remembering of Pictorial Material. Archives of Psychology No. 358. New York: September, 1940. Pp. 69.
- Seward, John P., and Silvers, Evelyn E. "A Study of Belief in the Accuracy of Newspaper Reports," Journal of Psychology, XVI (October, 1943), 209-18.
- Shen, Eugene. "A Generalized Formula for Testing the Significance of Experimental Treatments," Harvard Educational Review, X (January, 1940), 70-74.
- Sherif, M. "An Experimental Study of Stereotypes," Journal of Abnormal and Social Psychology, XXIX (January-March, 1935), 371-75.
- Sherman, Mandel. Basic Problems of Behavior. New York: Longmans, Green and Co., 1941. Pp. viii+440.
- Sletto, Raymond Franklin. Construction of Personality Scales by the Criterion of Internal Consistency. Minneapolis, Minnesota: The Sociological Press, 1937. Pp. vii+92.
- Smith, Maurice M. "Comparative Social Attitudes," Journal of Social Psychology, XXVIII (December, 1937), 681-93.
- Snyder, William U. "A Survey of Recent Studies in the Measurement of Personality, Attitude and Interests of Adolescents," Journal of General Psychology, XXV, Second Half (October, 1941), 403-420.

- Storm, Grace E. "Recent Trends in the Teaching of Citizenship," Elementary School Journal, XLIV (February, 1944), 327-36.
- Strang, Ruth. Explorations in Reading Patterns. Chicago: The University of Chicago Press, 1942. Pp. ix+172.
- Strang, Ruth. "Variability in Reading Scores on a Given Level of Intelligence Test Scores," Journal of Educational Research, XXXVIII (February, 1945), 440-46.
- Sullivan, Elizabeth T., Clark, Willis W., and Tiegs, Ernest. Manual of Directions: California Short Form Test of Mental Maturity Intermediate S-Form. Los Angeles, California: California Test Bureau.
- Symonds, Percival M. Diagnosing Personality and Conduct. New York: D. Appleton-Century Co., 1931. Pp. xvi+602.
- The Cooperative Reading Comprehension Tests: Information Concerning Their Construction, Interpretation, and Use. The Cooperative Test Service, 16 Amsterdam Avenue, New York, New York, 1940.
- The Emotionalized Attitudes: The Contribution of Research to Teachers Concerned with Learning, Conduct, and Character. By members of Education 335-336M, with an Introduction by Thomas H. Briggs. New York: Teachers College, Columbia University, 1940. Pp. v+107.
- Thorndike, Edward L. "Reading as Reasoning: A Study of Mistakes in Paragraph Reading," Journal of Educational Psychology, VIII (June, 1917), 323-32.
- Thurstone, L. L. "The Measurement of Opinion," Journal of Abnormal and Social Psychology, XXII (January-March, 1928), 415-30.
- Thurstone, L. L., and Chave, E. J. The Measurement of Attitude. Chicago: The University of Chicago Press, 1929. Pp. 96.
- Thurstone, L. L., and Thurstone, Thelma Gwinn. Factorial Studies of Intelligence. Psychometric Monograph No. 2. Published for the Psychometric Society by the University of Chicago Press. Chicago: The University of Chicago, 1941. Pp. v+94.
- Traxler, Arthur E. "Current Construction and Evaluation of Personality and Character Tests," Review of Educational Research, XIV (February, 1944), 55-66.
- Traxler, Arthur E. "Evaluation of Scores of High School Pupils on the Drobe-Thurstone Attitude toward War Scale," Journal of Educational Psychology, XXVI (November, 1935), 616-22.
- Traxler, Arthur E. The Nature and Use of Reading Tests. Educational Records Bulletin 34. New York: Educational Records Bureau, 1941. Pp. 64.

- Vickery, William E., and Cole, Stewart G. Intercultural Education in American Schools: Proposed Objectives and Methods. New York: Harper Brothers, 1943. Pp. xviii+214.
- Wang, Charles K. A. An Annotated Bibliography of Mental Tests and Scales. Peiping, China: Catholic University Press, 1939. Pp. vi+725.
- Wang, Charles K. A. "Suggested Criteria for Writing Attitude Statements," Journal of Social Psychology, III (August, 1932), 367-73.
- Waples, Douglas, Berelson, Bernard, and Bradshaw, Franklyn R. What Reading Does to People. Chicago: The University of Chicago Press, 1940. Pp. xi+222.
- Warren, Arthur B., and Jones, Vernon. "Effect of Acrophobia upon Reading Ability as Measured by Reading Comprehension and Eye-Movements in Reading," Journal of Genetic Psychology, LXIII (September, 1943), 3-14.
- Watson, Goodwin, and Glasser, E. M. Tests of Critical Thinking. Chicago: World Book Co., 1942.
- Wrightstone, J. Wayne. "Newer Appraisal Techniques in Language," Elementary English Review, XVIII (November, 1941), 243-49, 278.
- Wrightstone, J. Wayne. "Techniques of Appraisal," Reading in General Education. A Report of the Committee on Reading in General Education. Edited by William S. Gray, Chairman. Washington: American Council on Education, 1940. Pp. xiii+464.
- Young, Helen M. "Reading A Sentence: An Exercise in the Study of Meaning," English Journal, XXX (June, 1941), 450-57.
- Young, William E. "Recent Research in Reading in the Social Studies," Education, LXII (September, 1941), 18-26.
- Zahner, Louis C. "The Testing of Comprehension," Educational Record, Supplement No. 13, XXI (January, 1940), 71-84.

